AMERICAN UNIVERSITY OF ARMENIA

ISSUES OF DEVELOPMENT IN PRIMARY HEALTH CARE

Capstone Essay

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INTRODUCTION

Understanding Primary Health Care

Primary health care (PHC) is key to assuring an adequate level of public health for people in all countries of the world "*in the spirit ofsocial justice*" and as a part of social development(World Health Organization and United Nations Children's Fund 1978, 3). It is applicableto all states, from the least to the most developed, though the form in which it is applied or its components may vary according to the political, social, economic and cultural system in respective states(Kendall and Bryar 2014).PHC is aimed atallowing people to have "*economicaly productive and socially satisfying life*" (World Health Organization and United Nations Children's Fund 1978, 44)**.** People must behealthy in order to enjoy an economically and socially productive life. This leads to the importance of PHC as an integral part of programs aimed at the development of society.

The Alma Ata Declaration

Taking into consideration the serious need of PHC, the World Health Organization (WHO) partnering with the United Nations Children's Fund (UNICEF) organized the Alma-Ata (currently Almaty) Conference in 1978. The main goal of the Alma Ata conference, the first international conference dedicated to PHC, was to call onall governments to consider including PHC in their respective national development strategies. The conference ended in signing the Alma-AtaDeclaration (World Health Organization and United Nations Children's

Fund 1978). This was a document that defined the necessary components of PHC. The Declaration gives the following definition to PHC:

> *"Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and at a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination"* (World Health Organization and United Nations Children's Fund 1978, 3).

As such, PHC should be aimed to address the major health problems in the society supplying protective, promotive, restorative, as well as rehabilitative services. Naturally, the services supplied by PHC differ from one country to another. Nevertheless, at least the following components should be included in the PHC system of any country:

- Education on current health issues and ways of controlling and preventing them
- Food supply and right nutrition
- Family planning together with maternal as well as child health care
- Vaccination against the main infectious viruses
- Regulation, prevention and cure of locally widespread viruses
- Supply of necessary drugs

The Alma-Ata Declaration articulated certain factors that should be implemented to ensure the success and effectiveness of PHC. One of these factors necessitating the development of PHC is the issue of***"accessibility"***, which includes the organized and consistent provision of health care with due consideration of geographic location (considerations of travel time, distance from PHC units,andaccess to transportation)(World Health Organization and United Nations Children's Fund 1978, 23).

PRIMARY HEALTH CARE IN ARMENIA

Armenia is a developing country where PHC takes onvital importance to the government and to the people, having duly found its place in the Constitution. Article 38 of the Constitution states that"*Everyone shall have the right to benefitfrom medical aid and service under the conditions prescribed by law. Everyone shall have the rightto benefit from free of charge basic medical aid and services. The list and procedure of the services shallbe prescribed by law*" (The Constitution of the Republic of Armenia 1995, 9).

DuringSoviettimes, Armenia had one of the most developed health care systems among all Soviet states. All types of health services, including PHC, were available to the entire population(HrayrMaroukhian Foundation 2011).However, after Armenia gained independence in 1991, the country faced seriousproblems, including economic and sociopolitical problems that adversely impacted the health sector(Hovhannisyan et al. 2001).

Under the prevailing economic circumstances of the early years, the health care model inherited from the Soviet regimeno longer applied. By 1997,illicitpayments for healthcare became common and served as the onlysource of income of health care professionals(Taylor, Fillmore, and Scarato 2007).The situation in the country continued to get worse for more than a decade. The increasing lack of access to PHC especially bythe vulnerable populationgradually became a more serious issue for the country. Particularly rural regions suffered because of the absence of a viable system (Lee et al. 2007).

In 1996 the Armenian government initiated a major health reform program containing the following elements: ease of access to PHC services; increased state funding for health; and optimization of health professionals and facilities.TheNational Strategy on PHC adopted in Armenia in 1997 and revised in 2003includedsuch components related to PHC as equity

and accessibility,as well as harmonization among the different levels of the healthcare system(National Statistical Service of the Republic of Armenia 2010). Later, the RA government reform agenda became the basis around which the strategic objectives of different international donor organizations(including USAID, the World Bank and others)were articulated and used to measure progress in PHC inArmenia(USAID 2010; Taylor, Fillmore, and Scarato 2007).

It is undeniable that there have been obvious achievements in the PHC sector since then. However, there remain gaps in the PHC system particularly related to accessibilityand quality of PHC servicesthat must be addressed. Considering that attention focused on improvements in the capital, the situation continues to be troublingin certain regions of rural Armenia(Dashevskiy 2007).

The purpose of the current study is toidentifythe main PHC challenges inthe rural regionsofArmenia. Aside from identifying the gaps and weaknesses of the system, this study makes recommendations for improvements to respective ministries and non-governmental organizations engaged in the delivery of PHC.

LITERATURE REVIEW

Within the scope of this literature review different authors' arguments about thechallenges of PHC in rural communities of many developing countries are examined. Different academic articles and studies are explored paying particular attention to those studies where the authors identify the obstacles that hamper the development of PHC in rural communities.

Access as a Challenge of PHC

Access plays a central role in the performance of PHC systems worldwide (Levesque, Harris, and Russell 2013).Access to proper health care is recognized as a basic human right by international conventions and organizations, including the Millennium Development Goals, U.N. Human Rights Commission, as well as WHO (Payyappallimana 2010). Though there are significant distinctions in PHC between developed and developing countries, the access issue is a matterof concern everywhere(Strasser2003). Better access to PHC is essential for the successful realization of at least three Millennium Developmental Goals of the United Nations (maternal health improvement, child mortality reduction and fight against malaria, HIV/AIDS and other viruses (Tanser 2006). Many challenges remain to achieving the objective of *Health for All* and the MDGs(JICA Research Institute 2015). The UN Strategic Development Goals (2015) has continued to place significant emphasis on issues related to health.In many developing countries, the majority of the population lives in rural regions, butstate resources continue to be focused on cities. Therefore, almost all countries have problems dealing with transport and communication, as well as challenges related to deficiencies of health professionals in remote and rural areas (Strasser 2003).

There is no universal definition of*access*(Shrestha 2010; Levesque, Harris, and Russell 2013).Therefore, taking into account the generally accepted factors and dimensions of health care, access to PHC can be viewed from different angles (Shrestha 2010).Access barriers do not merely refer to geographic barriers (Jacobs et al. 2011; Levesque, Harris, and Russell 2013). Access is multidimensional and includes the following dimensions:

- Accessibility (geographically driven accessibility)
- Availability (availability of health professionals and health services)
- Affordability (affordability of health care services)

- Acceptability (dealing with issues related to culture, age, sex, and education)
- Adequacy (adequate technology)(O'Donnell 2007; Radoli 2009; Schuurman, Berube, and Crooks 2010; Shrestha 2010; Jacobs et al. 2011; Lê et al. 2012; McGrail and Humphreys 2015).

Various major and minor health care issues are included in the above-mentioned dimensions, although theauthorshave their own specific classifications of access issues in each dimension. This literature review does not cover each dimension of access separately. Rather, the section that follows discusses the*major* PHC barriers primarily focusing on their different dimensions of access.

Distance and Transport Issues

There are many studies that address access challenges to PHC, particularly in rural regions characterized by distance and isolation from cities and regional centers(O'Donnell 2007; McGrail and Humphreys 2015). According to McGrail and Humphreys (2015), minimizing geographical obstacles of distance and isolation should be a priority for every country. In addition,O'Donnell(2007) argues that distance to health care facilities, as well as the poor quality of roads in rural and remote areas make patient access to the point of health care delivery considerably costly(O'Donnell 2007).

Delving deeper into the topic, Olvera, Plat, and Pochet (2003)argue that in the rural regions of Africa people live in poor social conditions and travel long distances, which makes transportation costsweigh heavily on their household budgets(Olvera, Plat, and Pochet 2003). Discussing the barriers related to distance in Tanzania,McGrail and Humphreys (2015) argue that distance assumes higher costs of transportation but, more sadly, also causes child mortality. Long distances to access health care facilities foster undue delays in the ability to receive timely care(McGrail and Humphreys 2015).In order to curtail barriers related to

distance and transportation,O'Donnell(2007)fosters implementing policies that lift or reduce distance barriers by adopting a more balanced distribution of health facilities through the region and building new oneswhere the first available facility is very remote(O'Donnell 2007).

Further, studying issues of accessibility, a number of researchers often mention the lack of transportation as a main obstacle(Shook 2005; Iezzoni, Killeen, and O'Day 2006; Nteta, Mokgatle-Nthabu, and Oguntibeju 2010; Makaula et al. 2012; Halwindi et al. 2013; Atuoye et al. 2015; McGrail and Humphreys 2015).Transportation is one of the major access facilitators aimed to ease movement in rural or remote regions(Standing Council on Health 2012). A study byShook(2005) argues thata major transportation issue is the transit problem. Improvement of transitservices may result in the reduction of barriers to obtain medical care for those people who rely on transit.Having medical insurance does not solve this problem if the holderencountersproblems with transportation. Addressing one issue and omitting another, therefore, does not bring to achieving effective results(Shook 2005).

Another point stressed byAtuoye et al. (2015)is the quality of roads. Although transportation plays a major role for ensuring accessibility to PHC services, it is closely interconnected with the quality of roads.Rural women-respondents included in the study stated that they would be very happy to be able to deliver babies in state-supported hospitals. However, due to the high cost of transportation associated with the bad quality of roads they cannot afford the expense of getting to those hospitals. Thus policies aimed at improving PHC accessibility do not deliver the intended results. This makes the construction and maintenance of roads and the availability of emergency vehicles in rural communitiesan integral part of reforms in rural PHC(Atuoye et al. 2015).

A study byHalwindi et al. (2013)also emphasizes the long distance people need to travel to access health care services as a major obstacle in remote areas. The authors suggest a number of approaches intended to solve this issue, including increasing or improving outreach programs and expanding the healthcare services available in remote ruralcommunities so as to ensure so as to bring health care services closer to respective communities.

Further, a study conducted byMakaula et al. (2012)found that the absence of emergency medical transport also impedes access to PHC services. Several factors are identified, such as lack of appropriate means of transportation, poor conditions of roads or absence of roads, and inability to afford use of transport services. Moreover, it has been empirically proven that the provision of emergency medical transport and improvement of roads have saved lives.

In Sierra Leone, for example, investment in public transportation and improvement of communication systems resulted in doubling the usage of obstetric emergency services and reduced fatality cases by 50%. More, in Nigeria, improvement of the obstetric emergency transport system led to the reassignment of 29 women to higher standards of care within a period of two years (Razzak and Kellermann 2002). Access to PHC services along with reduction of distances to health care centers can be realized in two ways: (a) taking services to the people or (b) bringing the people to the services. Bringing people to health care services is closely connected with the improvement of roads and transportation systems, which seems to be more costly and unaffordable in most such cases (McGrail and Humphreys 2015).

Shortage of Health Workers

Extensive research has been devoted to studying access to PHCfrom the perspective of the availability of health care professionals working in rural communities of developing countries. As noted by the World Health Organization (WHO) "*health workers save lives and primary healthcare (PHC) holds the key to improving access to healthcare for underserved communities and reaching the Millennium Development Goals*"(Nkomazana et al. 2015, 2). Several authors argue that attracting and retaining qualified healthcare professionals and developing effective systems for the delivery of PHC serve as key drivers for improving the health of rural residents thereby making access to PHC more equitable across different segments of the population(Ndetei, Khasakhala, and Omolo 2008).

However, the lack of healthcare professionals in rural areas stems more from individual preferences regarding workplaces, which is exacerbated by the lack of adequate state policies to ensure an equal distribution of health professionals and availability of the appropriate skills mix across any country. The latter points are factors that contribute to creating a positive work environment and a suitable knowledge base(World Health Organization 2008; Ndetei, Khasakhala, and Omolo 2008).

The current statistics in the field show that there are severe shortages of PHC professionals worldwide, which is constraining the efforts of many developing countries in providing state-planned primary healthcare(World Health Organization 2008).Similarly, according to several authors and health experts who have studied the PHCchallenges in rural and remote regions, one of the major PHC challenges in rural regions is the shortage of health professionals(Awases et al. 2004; Obioha and Molale 2011; Abdulraheem, Olapipo, and Amodu 2012; Jaro and Ibrahim 2012; Buchan et al. 2013).

According to a research by theAustralian Institute Health and Welfare (2008)andLê et al. (2012), the distribution of health workers and their employment in rural and remote areas differ across Australia. In an earlier study, these authorsargue that there is a big gap in primary healthcare between rural and urban areas, particularly in terms of access and level of service delivery. Moreover,Lê et al. (2012) also report that rural Australians who had participated in the study have raised concern that in rural Australia there are villages that do not even have a resident doctor. In contrast, the situation is different in urban areas where if a primary healthcare center falls short of providing a certain type of service that becomes necessary, there are arrangements in place to fill in for delivering that service. However, the same cannot be stated for rural regions.

Another issue is that the more remote the area, the more likely that primary healthcare professionals are contracted for lesser wages by the state and regional health services(Bangdiwala et al. 2010).Discussing health worker shortages in the rural parts of Nigeria,Abimbola et al. (2015)argue that inlow and middle income countries the decentralized health care system has an adverse impact on the retention of health workers. This is because ofirregular and low salaries that make rural health workers seek work in urban health facilities run by state government where the salaries are higher and more regularly disbursed. In order to solve such issues the authors recommend that state governments increase the salaries of rural health workers, as well as ensure disbursement on a regular basis(Abimbola et al. 2015). In addition, toincreasingsalaries,Kipp et al. (2001)recommend usingincentivesfor attracting health workers, claiming thatsuch an approachwould significantly motivate health workers as was asserted by 90% of rural health workers who participated in a survey on that topic(Kipp et al. 2001).

In addition,Buchan et al. (2013)and Jaro and Ibrahim (2012)argue that one of the reasons of the shortage of health professionals is the existing maldistribution of health professionals among rural and urban areas, which is a serious concern in most countries. As stated by a World Health Organization (2008)report on PHC, the lack of health specialists in remote and rural communitiesis a driver of the high mortality rates in those areas.This increases the preference by rural residents toseek healthcare in urban hospitals, which in turn creates overcrowding,thereby further increasing costs in urban facilities(World Health Organization 2008).

In order to tackle the problem of health workers' maldistribution Buchan et al. (2013) recommend implementing a system requiring three-year mandatory service in rural communities by all graduates and postgraduates in midwifery, pharmacy, nursing and family physiciansbefore getting their licenses to work in their respectivefields of study. The implementation of such a policy would encourage new health professionals to supply high-quality services during their work in rural health centers and to continue working in a rural community after completion of theirstudy(Buchan et al. 2013).

In a similar study discussing the shortages of health care professionals in rural areas of developing countries,Martínez et al. (2005)argue that the PHC in Nicaragua and Peru is not sufficiently developed due to the low level of required training. Such programs in continuing education of rural health workers would train them in their respective specialties by way of consultations with other health specialists (Oak 2007). The authors also claim that existing minimal continuing education programs are very ineffective in rural communities. Besides, health workers in rural areas are young and are distinguished by their lack of practice and high turnover. In addition,once they get qualified they leave rural hospitals primarily because of professional isolation(Martínez et al. 2005; Oak 2007).

In order to solve the above stated issues the authors recommend using telemedicine in rural areas, which will foster commnication among health workers and their colleagues in urban centers, as well as bring a broader dimension to consultation with patients. E-health would be a useful tool to institute for overcoming the shortages related to health services in developing countries(Martínez et al. 2005; Castells and Cardoso 2005).

Performance Management Systems

Continuing the discussion of issues related to shortages of health workers in developing countries, Martinez and Martineau (2001),Dieleman and Harnmeijer(2006), Bhatt, Giri, and Koirala(2008), Willis-Shattuck et al. (2008)claim that one of the reasons of the shortage of health professionals in developing countries is the absence or poor supervision of performance —i.e., lack of performance-management systems. Here performance management is used in the sense of "measuring, monitoring and enhancing the performance of staff" as supplier of general managerial performance(Martinez and Martineau 2001, 1). According toBhatt, Giri, and Koirala(2008) andDieleman and Harnmeijer(2006),in those developing countries that have performance management systems there are other types of problems associated with outdated management tools or inadequate understanding by managers ofperformance management tasks.

In the health care profession, performance management includes continuous education, adequate supervision, performance appraisals, career advancement programs, as well as clear job descriptions that delineate responsibilities and expectations.Dieleman and Harnmeijer(2006) argue that managers must be able to evaluate the effectiveness and the quality of service and be able to motivate and supervise their staff with the purpose of improving the overall quality of health care services(Dieleman and Harnmeijer 2006; Bhatt, Giri, and Koirala 2008).

Rural-Urban Migration of Health Professionals

Further discussing the shortage of primary healthcare professionals in rural and remote communities,Ndetei, Khasakhala, and Omolo(2008) argue that the main reason of this shortage is internal migration of primary health workers from rural to urban areas. According to the authors this is as serious as issues related to emigration. In addition, various studies (Awases et al. 2004)attribute the misbalanced distribution of health workers to socio-economic conditions, as well as job security and other professional development factors that lead to rural-urban migration. Also, these factors cause the movement by primary healthcare workers from public to private hospitals.

As mentioned earlier, these and other authors also claim that factors such us low salaries and lack of transportation foster health workers to leave rural health centers (Ndetei, Khasakhala, and Omolo 2008; Belita, Mbindyo, and English 2013). These authors recommend policy solutionsto retain primary health professionals in rural communities or in low-income regions, such as government-sponsored incentives of various sorts and not only financial, e.g., better working conditions, training in management, as well as continuing education opportunities, etc.(Ndetei, Khasakhala, and Omolo 2008).

Issues of Public Awareness

Disseminating information on PWC is equally important for improving access. However, this too is lacking in most developing countries. Awareness of PHC services would not only help people get the right treatment for their ailments, but would also preventdifferent types of illnesses(Abdulraheem, Olapipo, and Amodu 2012).

One of theobstacles to obtaining information on health care is that it is not given adequate consideration and importance by civil servants and policy makers. The importance

of such information is also neglected by governmentsthrough inadequate funding allotted for public information to citizens.Researchers suggest adult education programs and wide dissemination of informational pamphlets and flyers aboutthe available services intheir respective communityhealth centers (Adeyemi 1991; Aninweze 2004).

Creating awareness is deemed to be avital factor for improving health care in the rural areas of African countries. In Zambia, for example, awareness and understanding of children's illnesses by rural populations are necessary for prevention. Thus, a solution to consider is the strengthening of health-related education and information dissemination in rural communities (Abdulraheem, Olapipo, and Amodu 2012; Halwindi et al. 2013).

The whole approach to health education needs to be changed on a national level. The population should be taught what services to expect from primary health clinics, how to adopt healthy lifestyles and where to gettimelytreatment.Health education should include every aspect of information sharing and awareness-raising, starting from personal hygiene to nutrition and physical exercise(World Health Organization 1998; Abdulraheem, Olapipo, and Amodu 2012).

A study on the awareness of health servicesby reproduction-age femalesin Uganda has measured awareness of PHC services and the frequency of use of medical services. The results have demonstrated that the majority of the population surveyed (73%) is aware of the existence of these services in their region, while only a small proportion (7.8%) use those services regularly. Also, 20% of the respondents stated that they were unaware of the existence of a hospital in their community and had never used health services in their lives.Thus, the study argues that all rural populations should be made aware of health services available to them. Policy makers have to take into account that illiteracy and lack of access to

internet are obstacles that prevent rural residents from being informed; thus, other ways should be considered to fill the existing information gap(Christiandolus 2012).

RESEARCH DESIGN AND METHODOLOGY

The current research uses a mixed method (quantitative and qualitative) for collecting and analyzing data for testing the hypotheses. The design is transformative sequential using, in the first phase, in-depth interviews with representatives of USAID,the RA Ministry of Health, and the World Bank. The interviews attempt to identify the specific PHC challenges that have been experienced by these institutions. The interviewees were also asked about which issue they consider the most important concerning their personal health careand what steps are needed for overcoming those issues.

Using the information obtained from the interviews, a surveywasconducted in four communities of Armenia, selected from two regions of the country: Aragatsotn and Tavush. The communities ofOhanavan and Quchak (in Aragatsotn),Getahovit and Movses (in Tavush) were selectedconsidering their varied proximities from respective regional centers. Thus two are located near the regional center (OhanavaninAragatsotn and GetahovitinTavush). The other two are located far from the regional center (QuchakinAragatsotn and Movses in Tavush; the latter also is a border village).

Another reason for the selection of these communities farther from the capital city of Yerevan is to capture reliable data (since thecommunities nearer to the capital are more inclined to seek health care in the capital). The questionnaire includes questions related to the challenges of access to PHC experienced by people living in those villages and what they consider viable solutions.

The sample size comprised 119 citizens agesixteen and older;30 people from each of the Ohanavan, Quchak and Movses communities and 29 from Getahovit participated in the survey.The respondents were asked questions mainly related to their/their access of PHC during the past five years; their satisfaction with those services;as well as the challenges they have faced with access to PHC services in their respective communities.

In the third phase of data collection, interviews wereconducted with the medical staff of the hospitals in the same four villages. The questions covered their respective level of satisfaction with the workplace, their preference to work in cities, PHC system,as well as follow-on questions derived from the survey findings on viable solutions intended to improve the quality of health care. The medical professionals werealso asked what PHC access challenges existed and which ones they would consider the most serious and whether there were regular trainings for improving their skills.

Research Questions and Hypotheses

Based on the abovementioned objectives the following research questions were developed:

RQ1: Are there transport related issues in rural areas?

RQ2:Do rural communities possess basic understanding of health care problems and the importance of addressing them?

RQ3: Are there qualified specialists working in rural areas?

These research questions were operationalized to the following hypotheses:

H_1: The PHC challenges of rural communities are related to their respective proximity to the regional center.

H_2: Shortage of health workers presents the most critical challenge to PHC in most rural regions of Armenia.

DATA ANALYSIS

As mentioned earlier, the qualitativedata collection used expert interviews with representatives of health-related institutions in Armenia and in-depth interviews with health professionals working in rural hospitals. This section aimed to explore the attitudes of representatives of PHC institutions towards the quality of health care in rural areas, the challenges they face in health care, and the steps these institutions are taking to overcome those difficulties.

Three main categories were derived from the literature review for coding the interviews. They are: (1) distance and transport related issues; (2) public unawareness; (3) shortage of health professionals.Each of these categories was broken down into relevant descriptors and measured by the intensity of importance pertaining to each descriptor on a scale of 1 to 5, where 5 meantgreatest strength of the importance of the descriptor and 1 meantthe least importance attached to it.

The importance of the first category —distance and transport related issues—was measured by the following descriptors:

- Distance to health care facilities
- Quality of roads
- Existence/proper functioning of emergency medical transport

The importance of public awareness was measured using the following descriptors:

- Awareness of importance of health issues by rural residents
- Existence of sources of information on PHC services available for rural residents (pamphlets, flyers, and other sources)

The importance of the third category — shortage of health professionals — was measured by the following descriptors:

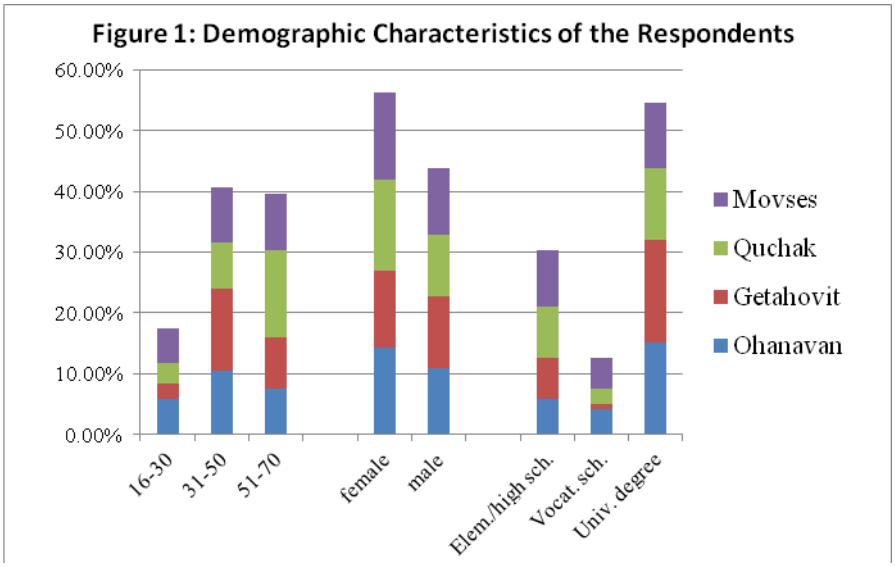
- Individual preferences of workplaces
- Preference to work in city hospitals
- Level of satisfaction with salaries
- Existence of a functioning performance management system in rural health facilities
- Provision of continuing education to rural health staff

Table 1presents the results of the content analysis with experts and with rural health staff.

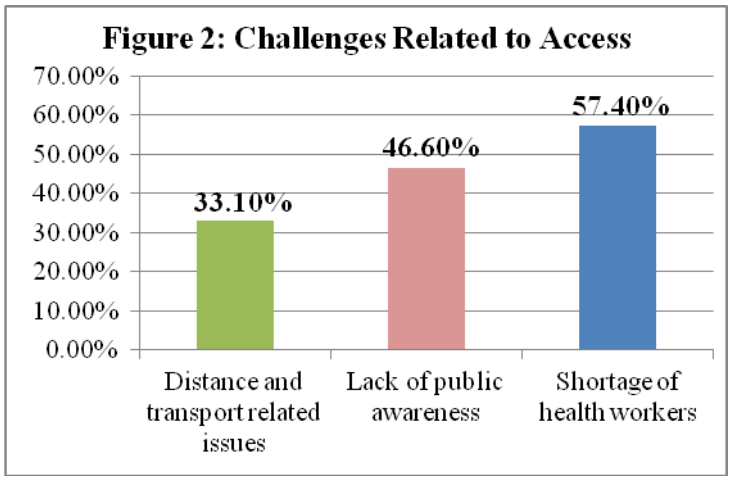
Table 1: Content Analysis of Interviews

N	Descriptor	Experts	OhanavanHealth Staff	GetahovitHealth Staff	QuchakHealth Staff	MovsesHealth Staff
1	Distance and transport related issues	3.75	4.0	3.33	3.66	3.66
2	Public unawareness	3.83	3.25	3.50	3.75	2.87
3	Shortage of health workers	4.40	4.25	4.33	4.53	4.23

Next, the quantitative data collected through the survey of 119 respondents was analyzed. Of the villages surveyed, two are closer to the regional center and the other two are relatively more distant. This selectionstrategy allowed gauging the effects of distance, i.e., whether or not the challenges related to PHC are related to proximity of the village to the respective regional centers. The demographic distribution of survey respondents is shown in Figure 1. The respondents from all four villages were 31-70 years of age. In addition, the number of female respondents was higher than male respondents, primarily because of male villagers working abroad in the season. The majority of the respondents were people with higher education.



The survey instrument included questions intended to measure the same challenges as those identified by the experts interviewed in the first phase of the research. The respondents were asked questions intended to identify issues of transportation, availability of health professionals in the ambulatory of their community, and the level of their awareness of PHC services available there.Figure 2 presents data from respondents on the degree to which transportation issues hamper access to PHC services.



The respondents of the selected villages had different attitudes towards the category under examination, as presented inTable 2 that shows the relative percentages of corresponding statements measured on a Likert scale of 1 to 5. The table includes the percentages of the respondents who agreed or strongly agreed with the suggested statements.(For ease of analysis, responses indicating agreement or strong agreement were combined.)

As shown earlier in Table 1 there are distance and transport related issues in all four villages studied, but especially in Ohanavan (mean=4.0).This can be explained by the fact

that there is no ambulatory in the village and the residents have to travel to Karpi (a neighboring village) to get PHC services. In the other three villages there are ambulatories and the only problem for the residents is poor quality of roads and absence of emergency medical transport. Table 1 does not show a significant difference among the villages that are closer to the regional center from those far from it, suggesting that proximity is not a major challenge.

Table 2: Results of the Survey by Village

		Ohanavan	Getahovit	Quchak	Movses
1	Distance and transport related issues	10.21%	3.13%	23.56%	63.10%
2	Public awareness	24.38%	21.45%	27.54%	26.63%
3	Lack of health workers	10.6%	13.3%	27.7%	48.4%

In contrast to the findings from the content analysis, the analysis of survey data showed that respondents attached more importance to distance and transport related issues for PWC access. In Ohanavan and Getahovit (villages closer to the regional center) only 10.21% and 3.13% of the respondents agree/strongly agree that they experience distance or transport related difficulties, while in Quchak and Movses 23.56% and 63.10% of the respondents respectively complained of difficulties arising from proximity. In addition, the survey analysis showed that despite the fact that the other three communities have ambulatories in their respective villages, the respondents from these communities expressed concern with the poor quality of roadsand the absence or malfunctioning of emergency medical vehicles.

Another PHC issue identified by the content analysis is public unawareness. According to Table 1 shown earlier, the level of unawareness is almost equal in three villages, while Movsesappears to be an exception (mean=2.87).Both the experts and the medical staff of Ohanavan, Getahovit and Quchak stressed that people often do not take health issues seriously. This, they explained, is mostly attributed to their unawareness of the

seriousness of health problems they are having and miss check-ups as a result or go to a hospital when their problems get complicated.

The case of Movses is slightly different. According to the health staff of this village, although the residents do not know what specific check-ups they need to have, they are aware of the opportunity for free check-ups, which they consider a privilege asa border village community. Nevertheless, the findings from the survey analysis shown in Table 2 indicate that the level of unawareness is not significantly different in all four villages. Consequently, it can be inferred that the level of rural residents' unawareness isnecessarily conditioned by thegeographical location of their respective villages. As was shown in Figure 2, in all four villages 46.6% of the respondents stated that they seldom use PHC services as they do not consider health related issues important. This is primarily due to the lack of community health education and the availability of proper sources of information on PHC services in rural regions.[1]

Taking into consideration the findings from both content and survey analyses, the most critical challenge to PHC in the four villages studied for the current research is the shortage of health workers (57.4% of respondents, see Figure 2). Whereas according to the experts interviewed, the key issue is the maldistribution (unequal distribution) of health specialists between rural and urban regions (mean =4.40). The reason is that health workers have individual preferences when choosing their workplaces. Besides, rural health professionalshave tendency to work in city health facilities because most of them are unsatisfied with rural salaries. In addition, the experts pointed to the lack of or poor performance management systems in rural health facilities.The other challenge identified by

[1] The respondents were asked about the sources of information (pamphlets, flyers, and other sources of information) on PHC services in their villages. Almost half of the respondents (45.8%) chose the option that there is no source of information on PHC services in their respective villages.

experts is that health workers in rural facilities are not provided with continuous education and do not have adequate computer skills for using e-health resources.

The interviews with rural ambulatory health workers confirmed these statements by the experts. Most of them stated that they will take the first opportunity to work in city health facilities because, according to them, the salary in cities is higher and more regular, and they would have better carrier advancement perspectives in cities.

According to the survey analysis the number of qualified health workers is limited in the villages. This problem is especially critical in the villages ofQuchak and Movses (27.7% and 48.4%), which are located far from regional health centers. The survey respondents agreed with thatclaiming that the limited number and bad quality of health professionals working in their respective villages could be cited as the main reason for which they do not access PHC services. It is to be noted that during the interviews there were vacancies for physicians in Quchak and Movses and those vacancies had not been filled for a long time. Thus it can be inferred that the farther the village is from the regional center the more health specialists are keen on avoiding to work there.

CONCLUSION

This research paper studied the challenges related to access of PHC in four villages of Aragatsotn and Tavush marzes in Armenia, namely Ohanavan, Getahovit, Quchak and Movses. The findings from the analysis of data collected, both contentand survey dataanalyses showed that there are challenges of access in all four of the villages studied. These challenges are predominantly related to distance and transport, health worker shortage and public unawareness, the most critical one being the issue of shortage of health workers.

Thus, it can be concluded that rural Armenia faces the same challenges related to PHC access as in other developing countries.These challenges are related to distance and transport as was argued by Shook (2005); Iezzoni, Killeen, and O'Day (2006); Nteta, Mokgatle-Nthabu, and Oguntibeju (2010); Makaula et al. (2012); Halwindi et al. (2013); Atuoye et al. (2015); McGrail and Humphreys (2015). The challenge related to the shortage of health workers is also common in the rural regions of Armenia, as was argued byAwases et al. (2004); Obioha and Molale (2011); Abdulraheem, Olapipo, and Amodu (2012); Jaro and Ibrahim (2012); Buchan et al. (2013).The problems caused by peoples' unawareness of PHC services and health problems also are challenges found in other countries (Abdulraheem, Olapipo, and Amodu 2012; Halwindi et al. 2013).

This research also sought to find out if PHC access challenges are related to the proximity of villages to regional health centers and found proximity challenges are conditioned by issues related to transport and quality of ambulance service, if available. The unawareness of village residents of health related topics also presents access challenges but that too depends on the physical location of respective villages.

RECOMMENDATIONS

Based on the literature reviewed as well as the results of the content and survey analyses, the following policy recommendations are made for consideration by government/policy makers and non-governmental organizations engaged in the delivery of PHC.

The following recommendations are presented on the issues identified above.

— To focus attention to the criticality of improving the quality of roads and transit services in rural Armenia.

— To avail rural communities of emergency medical transportation to village ambulatories and/or regional health centers (depending on the criticality of a patient's condition)in order to cut down the waiting time required for an ambulance to arrive from the closestcity.

— To adopt a university graduation or licensing requirement of mandatory service in a rural community before beginning to practice medicine in the respective fields of study. The implementation of this policy would encourage new medical workers to supply high-quality services during their work in rural parts and to go on working in a rural community after completion of their study.

— To promote the use of e-health in rural areas thereby fostering commnication among health workers from regions and the capital, parallel to providing patient consultations in the same manner.

— To provide government-sponsored incentives, including better pay, better working conditions, trainings in management, andmandatory continuing education opportunities.

— To allot funding for community health education andthe dissemination of health information to citizens.

BIBLIOGRAPHY

Abdulraheem, I. S., A. R. Olapipo, and M. O. Amodu. 2012. "Primary Health Care Services in Nigeria: Critical Issues and Strategies for Enhancing the Use by the Rural Communities." *Journal of Public Health and Epidemiology*.

Abimbola, Seye, TitilopeOlanipekun, UchennaIgbokwe, Joel Negin, Stephen Jan, Alexandra Martiniuk, NnennaIhebuzor, and MuyiAina. 2015. "How Decentralisation Influences the Retention of Primary Health Care Workers in Rural Nigeria." *Global Health Action*.

Adeyemi, N. M. 1991. "Issues in the Provision of Information Services to Developing Countries."*African Journal of Libraries, Archives and Information Science*.

Aninweze, O. P. 2004. "Information Needs of Rural Dwellers: A Case Study of Ukehe Community in Igbo Etiti Local Government Area of Enugu State." *Unpublished B.Sc. Project, University of Nigeria.*

Atuoye, Kilian, Jenna Dixon, Andrea Rishworth, Sylvester Galaa, Sheila Boamah, and Isaac Luginaah. 2015. "Can She Make It? Transportation Barriers to Accessing Maternal and Child Health Care Services in Rural Ghana."*BMC Health Services Research*.

Australian Institute Health and Welfare. 2008. "Delivering Better Health Outcomes for Remote and Rural Communities." *Australian Institute Health and Welfare*.

Awases, Magda, Akpa R. Gbary, Jennifer Nyoni, and RufaroChatora. 2004. "Migration of Health Professionals in Six Countries: A Synthesis Report." *World Health Organization*.

Bangdiwala, Shrikant, Sharon Fonn, OsegbeagheOkoye, and Stephen Tollman. 2010. "Workforce Resources for Health in Developing Countries." *Public Health Reviews,*.

Belita, Alice, Patrick Mbindyo, and Mike English. 2013. "Absenteeism Amongst Health Workers – Developing a Typology to Support Empiric Work in Low-Income Countries and Characterizing Reported Associations." *Human Resources for Health*.

Bhatt, V, S Giri, and S Koirala. 2008. "Health Workforce Shortage: A Global Crisis." *The Internet Journal of World Health and Societal Politics*.

Buchan, James, Ian Couper, VirojTangcharoensathien, KhampasongThepannya, Wanda Jaskiewicz, Galina Perfilieva, and Carmen Doleag. 2013. "Early Implementation of WHO Recommendations for the Retention of Health Workers in Remote and Rural Areas." *Bull World Health Organ*.

Castells, Manuel, and Gustavo Cardoso. 2005. "The Network Society: From Knowledge to Policy." *Center for Transatlantic Relations*.

Christiandolus, EkwuemeOsa-eloka. 2012. "Health Consumer's Perception on Increasing Primary Health Care Services Utilization and Quality Enhancement at the Primary Health Centers in Enugu, Enugu State, Nigeria." *Open Access Scientific Reports*.

Dashevskiy, Igor. 2007. "Health." *UNICEF Armenia*. http://www.unicef.org/armenia/health.html.

Dieleman, Marjolein, and Jan Willem Harnmeijer. 2006. "Improving Health Worker Performance: In Search of Promising Practices." *World Health Organization*.

Halwindi, H., S. Siziya, P. Magnussen, and A. Olsen. 2013. "Factors Perceived by Caretakers as Barriers to Health Care for Under-Five Children in Mazabuka District, Zambia." *Hindawi Publishing Corporation*.

Hovhannisyan, Samvel, Ellie Tragakes, SuszyLessof, HrairAslanian, and Ararat Mkrtchyan. 2001. "Health Care Systems in Transition: Armenia." *European Observatory on Health Care Systems*.

HrayrMaroukhian Foundation. 2011. "Social Reforms in Armenia." *Friedrich-Ebert-Stiftung*.

Iezzoni, Lisa, Mary Killeen, and Bonnie O'Day. 2006. "Rural Residents with Disabilities Confront Substantial Barriers to Obtaining Primary Care." *Health Research and Educational Trust*.

Jacobs, Bart, PorIr, Maryam Bigdeli, Peter Leslie Annear, and Wim Van Damme. 2011. "Addressing Access Barriers to Health Services: An Analytical Framework for Selecting Appropriate Interventions in Low-Income Asian Countries." *Health Policy and Planning*.

Jaro, Ibrahim M., and Abdulhamed A. Ibrahim. 2012. "The Accessibility Problems of Primary Health Care to Rural People in Jigawa State, Nigeria." *Global Advanced Research Journal of Social Science*.

JICA Research Institute. 2015. "Effective Approaches for Rural Development." *JICA Research Institute*.

Kendall, Sally, and RosamundBryar. 2014. "Primary Health Care Research & Development." *Cambridge Journals Online*.

Kipp, Walter, Jimmy Kamugisha, Phil Jacobs, Gilbert Burnham, and Tom Rubaale. 2001. "User Fees, Health Staff Incentives, and Service Utilization in Kabarole District, Uganda." *Bulletin of the World Health Organization,*.

Lee, David, Maria Miralles, Susanna Khachatrian, and OvsannaNajaryan. 2007. "Options for Improving the Supply and Use of Medicines for Primary Health Care in Armenia." *USAID, Managements Science for Healrh*.

Lê, Quynh, Hoang Boi Nguyen, Stuart Auckland, Ha Hoang, and Daniel Terry. 2012. "Access to Health Care Services in an Australian Rural Area – A Qualitative Case Study." *International Journal of Annotative Interdisciplinary Research*.

Levesque, Jean-Frederic, Mark Harris, and Grant Russell. 2013. "Patient-Centred Access to Health Care: Conceptualising Access at the Interface of Health Systems and Populations." *International Journal for Equality in Health*.

Makaula, Peter, Paul Bloch, Hastings Banda, Grace Mbera, Charles Mangani, Alexandra Sousa, Edwin Nkhono, Samuel Jemu, and Adamson Muula. 2012. "Primary Health Care in Rural Malawi-a Qualitative Assessment Exploring the Relevance of the Community-Directed Interventions Approach." *BMC Health Services Research*.

Martínez, A., V. Villarroel, J. Seoane, and F. Pozo. 2005. "Analysis of Information and Communication Needs in Rural Primary Health Care in Developing Countries." *IEEE Transactions on Information Technology in Biomedicine*.

Martinez, Javier, and Tim Martineau. 2001. "Introducing Performance Management in National Health Systems: Issues on Policy and Implementation." *An IHSD Issues Note*.

McGrail, Matthew, and John Humphreys. 2015. "Discussion Paper: Development of a National Index of Access for Primary Health Care in Australia." *Centre of Research Excellence in Rural and Remote Primary Health Care*.

National Statistical Service of the Republic of Armenia. 2010. "Access to and Utilization of Primary Health Care Services."

Ndetei, David M., Lincoln Khasakhala, and Jacob O. Omolo. 2008. "Incentives for Health Worker Retention in Kenya: An Assessment of Current Practice." *Regional Network for Equity in Health in East and Southern Africa (EQUINET).*

Nkomazana, Oathokwa, Robert Mash, Sheila Shaibu, and NthabisengPhaladze. 2015. "Stakeholders' Perceptions on Shortage of Healthcare Workers in Primary Healthcare in Botswana: Focus Group Discussions." *PLOS ONE.*

Nteta, Thembi, Matilda Mokgatle-Nthabu, and OluwafemiOguntibeju. 2010. "Utilization of the Primary Health Care Services in the Tshwane Region of Gauteng Province, South Africa." *PLoS ONE.*

Oak, Mugdha R. 2007."A Review on Barriers to Implementing Health Informatics in Developing Countries."*Health Informatics in Developing Countries.*

Obioha, Emeka E., and Masemote G. Molale. 2011. "Functioning and Challenges of Primary Health Care (PHC): Program in Roma Valley, Lesotho." *Ethno Med.*

O'Donnell, Owen. 2007. "Access to Health Care in Developing Countries: Breaking Down Demand Side Barriers." *Cad.SaúdePública.*Payyappallimana, Unnikrishnan. 2010. "Role of Traditional Medicine in Primary Health Care: An Overview of Perspectives and Challenges." *Yokohama Journal of Social Sciences.*

Olvera, Lourdes; Didier Plat, and Pascal Pochet. 2003. "Transportation Conditions and Access to Services in aContext of Urban Sprawl and Deregulation. The Case of Dar es Salaam."*Transport Policy, Elsevier.*

Radoli, Daily. 2009. "Essential Medicines in Primary Health Care." *The World Council of Churches.*

Razzak Junaid and Arthur Kellermann. 2002."Emergency Medical Care in Developing Countries:Is It Worthwhile?"*Bulletin of the World Health Organization.*

Schuurman, Nadine, MyriamBerube, and Valorie Crooks. 2010. "Measuring Potential Spatial Access to Primary Health Care Physicians Using a Modified Gravity Model." *The Canadian Geographer.*

Shook, Morgan. 2005. "Transportation Barriers and Health Access for Patient Attending a Community Health Center."

Shrestha, Jeny. 2010. "Evaluation of Access to Primary Healthcare: A Case Study of Yogyakarta, Indonesia." *International Institute for Geo-Information Science and Earth Observation.*

Standing Council on Health. 2012. "National Strategic Framework for Rural and Remote Health." *Commonwealth of Australia.*Strasser, Roger. 2003. "Rural Health around the World: Challenges and Solutions." *Family Practice.*

Tanser, Frank. 2006. "Geographical Information Systems (GIS) Innovations For Primary Health Care in Developing Countries." *Innovations.*

Taylor, Robert, Capri-Mara Fillmore, and Rosario Scarato. 2007. "Assessment of the USAID/Armenia Primary Health Care Reform Project." *USAID.*

"The Constitution of the Republic of Armenia."1995. http://www.parliament.am/parliament.php?id=constitution&lang=eng.

USAID. 2010. "Armenia Primary Health Care Reform Project." *USAID.*

Willis-Shattuck, Mischa, Posy Bidwell, Steve Thomas, Laura Wyness, Duane Blaauw, and Prudence Ditlopo. 2008. “Motivation and Retention of Health Workers in Developing Countries: A Systematic Review.” *BMC Health Services Research*.

World Health Organization. 1998. “Health Promotion Glossary.” *World Health Organization*. 2008. “Increasing Access to Health Workers in Remote and Rural Areas Through Improved Retention.” *World Health Organization*.

World Health Organization, and United Nations Children’s Fund. 1978. “Primary Health Care.”

APPENDIX I —SURVEY QUESTIONS

1. Please indicate your age

- 16-23
- 24-30
- 31-50
- 50-70
- 70 and more

2. Please specify your gender

- female
- male

3.Please specify the highest level of education you have completed

- elementary school
- high school
- vocational school
- university bachelor's degree
- university master's degree
- PhD or higher (please specify (_____)

4.Please specify your region of residence

- Aragatsotn (Village _____)
- Tavush (Village_____)

5. Have you or a member of family used PHC during the last five years?

- **Yes**
- **No**

6. How would you rate the quality of the health assistance you/your family member received (from 1 to 10 where 1 means very dissatisfied and 10 means very satisfied)?

1 2 3 4 5 6 7 8 9 10

7. Have you ever faced hospital reaching difficulties?

- Yes
- No

8. Have you ever faced difficulties because of lack or bad quality of health stuff?

- Yes
- No

9. Have you ever faced complications because of your underestimation an illness?

- Yes
- No

10. What were the transportation problems you have faced?

- distance to health care facilities
- poor quality of roads
- shortage of means of transportation for people with disabilities
- absence of emergency medical transport

11. What is the main source of information on PHC in your village if any (more than one answer to this question is possible)?

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
Distance and transport to the PHC is a challenge and reason why I don't go for check ups					
The fewer number and law quality of health professionals is an issue and reason why I do not get high quality PHC					
I use PHC seldom as in many cases I do not consider health related issues a serious problem					

12. What is the main source of information on PHC in your village if any (more than one answer to this question is possible)?

- newspapers, magazines, books
- library services in some schools/educational institutions
- special trainings
- other (please specify_____)

13. Which of the following statements describes your situation best?

- There is a health post in my village and I get medical assistance there.
- There is a health post in my village but I don't trust the doctors working there.
- There is no health post in my village and I have to travel to other places to get it.
- There is no health post in my village and I do not travel to other places to receive medical assistance since resources aren't enough to get there.

14. Please fill in the following table.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Urban hospitals are more reliablein providing PHC					
I prefer to check with a health care hospital or clinic in the city					
Health professionals working in my village are qualified and there is no need to travel to the city					

APPENDIX II —INTERVIEW QUESTIONS FOR ORGANIZATIONS

1. What do you think of PHC in rural Armenia? Is the system functioning properly in rural and remote areas of Armenia? (Descriptor: proper functioning of the system).

2. In your opinion, what are the main PHC challenges that the system is facing, both from the government's perspective, as well as from the perspective of rural residents? (Descriptor: main challenges to PHC).

3. During recent 15 years you (USAID, WB and the RA Ministry of Health) implemented reforms in healthcare. Did those reforms include PHC access challenges in rural Armenia? (Descriptor: reforms including PHC).

4. Do you think that PHC challenges in rural areas can be a reason for rural residents to look for PHC in cities? (Descriptor: PHC challenges as a reason for travelling to the cities)

5. Did you (the RA Ministry of Health/USAID) conduct any trainings for rural residents, as well as for health professionals working in rural health clinics and posts to raise awareness of the importance of PHC? (Descriptor: trainings for rural health stuff as well as for rural residents).

6. Is the number and qualification of health workers adequateforthe provision of PHC servicesto rural residents? (Descriptor: enough qualified stuff).

APPENDIX III —INTERVIEW QUESTIONS FOR HEALTH STAFF

1. In your opinion, what are the main challenges faced by rural residents of your village in obtaining PHC services? (Descriptor: main challenges to PHC).

2. Are there any professional development trainings organized for health staff working in the health clinics of your village? Is participation mandatory? Did you participate in these trainings? (Descriptor: special training for health staff).

3. Do you have an opportunity to conduct consultations with other health professionals? If yes, do you benefit from these consultations? If yes, how so? If no, what were the obstacles that prevented them? (Opportunity for consultation with other doctors).

4. Are you aware of specific healthcare websites,electronic health accounts, as well as electronic prescriptions. If yes, do they help you to develop your proffessional skills? (Descriptor: e-health).

5. Do you face any difficulties related to lack or mulfunction of medical equipment? (proper functioning equipments).

6. Who supervises the work of health staff? Do they provide you with continuous education, performance appraisals,careeradvancementand promotion? (Descriptor: Performance management system).

7. If you had the opportunity to work in city would you rather do that? If yes, please be specific in explaining your answer? (Descriptor: health stuff tendency to migrate to cities)

8. Are you satisfied with your salary? Would you rather work in the city if your salary were equal or more from the specialists who work in city hospitals? (Descriptor: higher salary as stimulus for not to migrate from the village).

9. What improvements would you offer to curtail or lift existing challenges that rural residents continue to face? (Descriptors: improvements in the field).