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RURAL HEALTH POST ATTENDANCE REVIEW

DESCRIPTIVE STUDY REPORT



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ABBREVIATIONS

ANC	Antenatal care
ARI	Acute Respiratory Infections
CHD	Coronary Heart Disease
CVD	Cardio-Vascular Disease
FAP	Feldsher-Accoucher Punkt (<i>Russian</i>) also known as Health Post (HP)
FP	Family Planning
HIS	Health Information System
HP	Health Post
MCH	Maternal and Child Health
MoH	Ministry of Health
PPC	Postpartum Care
RH	Reproductive Health
SMCS	Safe Motherhood Clinical Skills
SPSS	Statistical Package for Social Sciences (statistical data entry and analysis software)
STIs	Sexually Transmitted Infections

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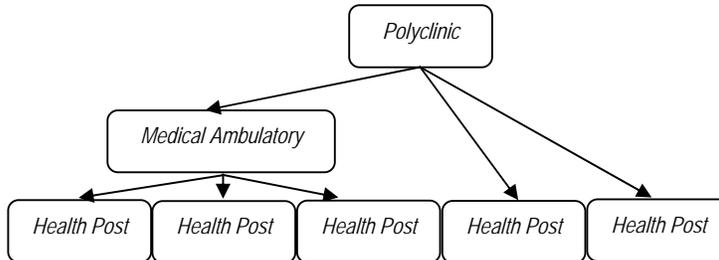
Special words of appreciation go to the 81 rural health post nurses who, in addition to their routine workload and extensive training schedule, found time to review their facility records, summarize and present the data requested.

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1. INTRODUCTION

Depending on the size and location of settlements, primary healthcare services in Armenia are provided by various outpatient facilities. Such facilities include polyclinics, rural medical ambulatories and rural health posts (also referred as FAPs – *Feldsher-Accoucher Punkts*). Health posts (HP) are the first level of care in the primary healthcare system serving the most deprived rural population (Figure 1). HPs do not have independent legal status and are attached to a supervisory healthcare facility such as a medical ambulatory or polyclinic. Usually HPs are located in small rural communities with a population of less than 1,000¹.

Figure 1: Rural Health Post Supervision



According to the Project NOVA Health Information System (HIS), 628 HPs in Armenia serve 400,000 people. The community/village size varies from 150 to 2500 people in each community. Among them approximately 25% are women of reproductive age.²

HPs are run primarily by a rural (community) nurse(s), supervised by a physician from a medical ambulatory or polyclinic. Several HPs in Armenia, mainly in remote communities, have catchment areas greater than 1,000 residents. The decision to classify these healthcare facilities as HPs is based on the unavailability of a doctor to work in the health facility of the given community.

As a rule, HPs are equipped with basic equipment and supplies needed for routine and first aid care and the role of the HP nurse is limited to basic interventions. However, due to their nature and depending on the health needs of the population, the HP nurses are often forced by circumstance to provide a wider range of health services.

USAID Project NOVA is a 5-year health initiative designed to improve the quality of and access to reproductive health (RH) and maternal and child health (MCH) services in rural Armenia. During October 2004 - September 2006, Project NOVA provided technical assistance in RH/MCH in five northern marzes (provinces) – Lory, Shirak, Tavush, Gegharkunik and Kotayk. In October 2006, the Project completed its interventions in the North and launched an expanded scope of work in the southern marzes of Armavir, Ararat, Aragatsotn, Syunik and Vayots Dzor. Within each marz, the Project works within a health network³ – Armavir, Vedi, Talin, Sisian and Vayk.

As part of its mandate to improve the quality of services, Project NOVA focuses on the quality of healthcare offered to rural communities. In collaboration with the Ministry of Health (MoH), the Project improves HP infrastructure; increases the knowledge and skills of HP nurses so they can provide high quality services and conduct health promotion and education activities; and to improve the community – HP provider and health post – supervisory healthcare facility relationships.

¹ G. Jerbashian Analysis of Armenia Rural Health Post Activities: Technical review, Project NOVA, August 2007.

² Project NOVA Armenian Health Information System, 2008.

³ NOVA Health Network includes in-patient and out-patient service delivery sites, e.g. Maternity Hospital, Women's Consultation Center, Ambulatories, Health Centers and Health Posts within a region, which is a geographic sub-division of a marz (or province).

As part of its scope of work with the HPs, Project NOVA initiated this review to:

1. Estimate the average number of patient visits.
2. Explore the purpose of the most frequent visits.
3. Estimate the proportion of patients' visits associated with RH, MCH and family planning (FP) services.

2. STUDY METHODS

This review was conducted in the HPs of the five health networks supported by Project NOVA in the southern marzes of Armavir, Aragatsotn, Ararat, Vayots Dzor and Syunik. The research team distributed data collection forms at all HPs within each health network to community nurses participating in Project NOVA's Safe Motherhood Clinical Skills (SMCS) training. The self-reporting data collection form was originally designed by the research team in English to include major reasons for attending a HP and the number of patient care visits at the HP and at home (Appendix 1). Final version of the data collection form was translated into Armenian and included instructions on how to complete the form.

The research team asked all 102 HP nurses enrolled in NOVA's SMCS training from Armavir, Vedi, Talin, Sisian and Vayk Health Networks to complete the form. The data collection forms were distributed and collected in January – April 2008. A total of 81 nurses (79.4% overall response rate) completed the forms based on their records and/or patient registration journals and returned them to the research team. Collected data represented information for the 12-month period of January – December 2007. The average time between the distribution of questionnaires and their return was 4-6 weeks, depending on the schedule of SMCS training's pre-post tests.

Table 1 presents the number of data forms collected from each network. The response rate was 79.4% for all five health networks with Vayk having the lowest (66.7%) and Talin health network having the highest (85.7%) response rates. The main reason for non-returned data collection forms relates to nurses' forgetting to bring the completed questionnaires on the pre-post day and the nurse being absent on the day of pre-post test.

Table 1. Data Collection Response Rate			
<i>Health Network Name</i>	<i>Forms Distributed</i>	<i>Forms Returned</i>	<i>Response Rate</i>
Armavir	13	11	84.6%
Vedi	14	10	71.4%
Vayk	15	10	66.7%
Talin	35	30	85.7%
Sisian	25	19	76.0%
No Network name listed		1	
Total	102	81	79.4%

The research team entered and analyzed the data using SPSS v.13 software and ran descriptive statistical tests for calculations presented in this report.

3. RESULTS

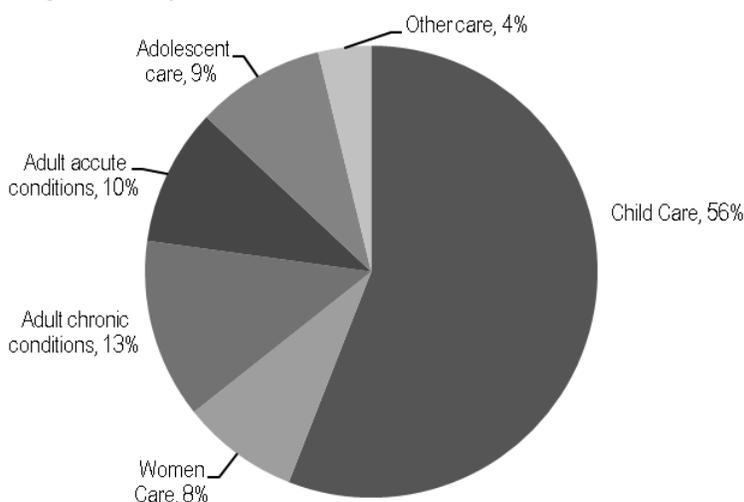
On average a total of 691 patient visits took place per HP during a 12-month period in 2007. This constitutes 13.3 patient-visits per week assuming that there are 52 weeks in a given year. Table 2 presents a summary table for all visits disaggregated by the purpose of care and Figure 2 gives its pictorial presentation.

Analysis of the data collected shows that more than six out of ten visits (64%) to the HPs are conducted for basic maternal and/or child health care. More than half (56%) of which are for routine child care, averaging 386 visits a year or approximately 7.4 visits a week. Only one in twelve visits to the health post are for women's care (8% or 58 visits a year on average). However, Project NOVA's baseline and endline assessments conducted in five Northern

Table 2: Average Annual Number of Visits by Purpose to a Health Post in 2007

<i>Purpose of the visit</i>	<i># of visits</i>
Child healthcare visits (up to 14 years)	386
Adult chronic conditions visits	89
Adult acute diseases/infections visits	68
Adolescents (ages 14-19) healthcare visits	64
Women's healthcare visits	58
Other visits	26
Total	691

Figure 2: Composition of Health Post Visits



Marzes show that attendance at HPs for women's healthcare issues increased up to 6-fold following NOVA's interventions that emphasize the importance of antenatal (ANC) and postpartum care (PPC) vs. 1.5-fold increase in the communities without project NOVA interventions. Results also show improved community nurse's competency and performance in women's health, and more mobilized and educated communities.⁴

the childcare visits (Table 3), almost half of visits (46% or 176 visits a year) were related to immunization. However, in October 2007 the MOH conducted a national rubella and measles immunization campaign for the entire population which covered a large number of children under age of 14. This could have affected the average annual number of visits to health posts for immunization purposes. Routine well-child care was the next most common reason of visits at 34% or 132 visits a year. Approximately 17% of childcare visits to HPs are related to sick child care, of which 9% (36 visits a year) were due to acute respiratory infections, 5% (19 visits a year) to diarrhea and 3% (11 visits a year) to injuries and poisoning.

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Table 3: Child (up to 14 years) Healthcare Visits in 2007

	<i>Average # of Visits</i>	<i>Percent of all visits*</i>
Immunization	176	46%
Routine well-child	132	34%
Acute respiratory infections	36	9%
Diarrhea	19	5%
Injuries and poisoning	11	3%
Other	12	3%
Average	386	100%

⁴ Outcome of Project NOVA activities in Shirak, Tavush, Gegharkunik and Kotayk marzes: Follow-up Assessment Report Project NOVA (Unpublished)

Table 4: Women's Healthcare Visits in 2007

	<i>Average # of Visits</i>	<i>Percent of all visits</i>
Antenatal care	15	26%
Family planning	13	22%
Postpartum care	11	19%
Gynecological care	9	16%
Other	10	17%
Total	58	100%

Further analysis of the purpose of the visit under the “women’s healthcare” category indicates that one out of four women’s visits (15 visits a year) was for ANC and one out of five (13 visits a year) was related to either FP or PPC (11 visits a year). Another 16% of visits took place for gynecological healthcare, such as sexually transmitted infections (STIs), menopause and/or cancer related conditions (Table 4).

Community nurses were also asked to provide data on their referral practices and information on the number of urgent and routine referrals made to medical ambulatories, polyclinics (including women’s consultation centers) and hospitals where a doctor is present. As presented in Table 5, the majority of community nurse referrals were for sick child care averaging 17.5 visits a year or approximately 1.5 visits a month.

Table 5: Average Number of Referrals in 2007

<i>Referral for</i>	<i>Number</i>
Sick child care	17.5
Antenatal care	13.3
Family planning	6.5
Postpartum care	5.8
STIs services	0.2
Other	8.1
Total	51.4

Out of 15 ANC visits conducted to the HPs 13 were referred to higher level facility. FP referrals average 6.5 referrals per year, which is about half of all visits related to FP services. The same pattern is observed in PPC visits; where an average of 6 out of 11 women are referred to a supervisory facility. Hospitals receive the majority of postpartum referrals (47.3%) followed by medical ambulatories (30.9%). The hospital also receives the majority of ANC referrals (41.1%) followed by polyclinics (39.7%). Community nurses refer 39% of FP patients to polyclinics, 33% to medical ambulatories; a significant percent of FP clients is also being referred to hospital (28%) to hospitals. Sick children are referred to hospitals and polyclinics (38% and 31% respectively).

Table 6: Adult Acute and Chronic Health Condition Visits to Health Posts in 2007

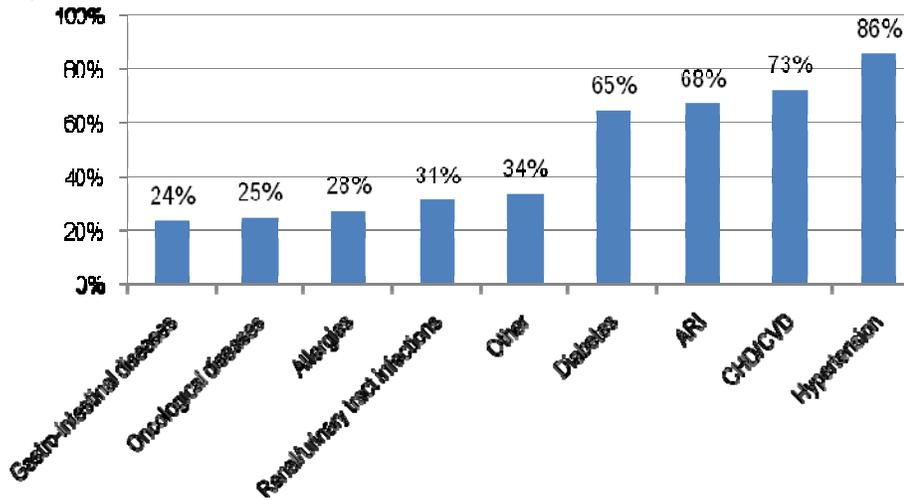
	<i>Average # of visits</i>	<i>Percent of all visits</i>
<i>Chronic Conditions</i>		
CVD (including hypertension)	43.6	49%
Vision related	14.2	16%
Diabetes	13.2	15%
Other chronic conditions	12.8	14%
Cancers	5.0	6%
Total	88.8	100%
<i>Acute Conditions</i>		
ARI	42.0	62%
Injuries and poisoning	10.3	15%
Urogenital disorders	7.9	12%
Heart attack	2.3	3%
Other acute conditions	5.3	8%
Total	67.8	100%

Adult acute and chronic health conditions constitute 23% of overall visits to the HPs, or 67.8 acute and 88.8 chronic health visits per year (Table 6). Acute respiratory infections (ARIs) are the most common reason for HP visits reported for adult acute health problems (42 visits a year). The most frequent adult chronic health conditions visits were for cardio-vascular diseases (CVD), including hypertension, at 43.6 visits a year, followed by vision-related problems at 14.2 visits a year and diabetes at 13.2 visits a year.

In addition to collecting information on the number and purpose of visits to rural HPs, the research team asked the nurses to identify the most common diseases in their communities and to rate them. Nurses reported multiple chronic conditions; however, the most common of them were hypertension, mentioned by 86% of nurses, coronary-heart diseases (CHD) and CVD (73%), diabetes (65%), allergies (28%) and

cancers (25%). ARIs were reported as the most frequently occurring acute condition by 68% of nurses (Figure 3).

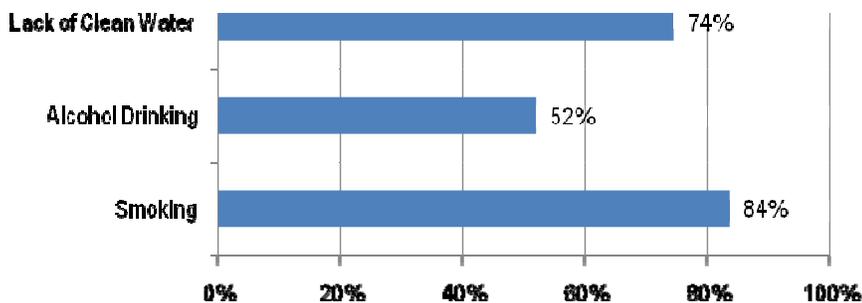
Figure 3: Nurses' Perceived Health Problems in their Communities



Nurses perception of the burden of disease in their rural communities correspond to findings from other research reports published for Armenia, where CVD among Armenian women age 15 – 44 is higher than the average rate for 25 European-B+C⁵ countries with low-to-high adult mortality⁶. CVD and cancer constitute the largest proportion (31.4%) of disability cases among women in Armenia. High body mass index (11.1%), high blood pressure (8.8%) and a high cholesterol level (6.1%) are listed as the first three major risk factors among Armenian women.

The research team also asked community nurses their opinion regarding the most common public health problems in their communities. The answers included overarching problems such as smoking, drinking alcohol, and lack of a clean water supply. Figure 4 presents a summary of public health problems as perceived by the community nurses. Although 80% of community nurses reported having running water within their community⁷, 74% of them list *clean* water as a public health problem.

Figure 4: Nurses' Perceived Public Health Problems in their Communities



⁵ Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Poland, Moldova, Romania, Russia, Serbia and Montenegro, Slovakia, Tajikistan, Macedonia, Turkey, Turkmenistan, Ukraine and Uzbekistan.

⁶ Highlight on Health in Armenia 2005. WHO 2006.

⁷ Running water in the community is defined as availability of common/shared water source in the community and at homes.

4. SUMMARY AND RECOMMENDATIONS

The findings of this study indicate that during the one-year period of January – December 2007 an average of 13.3 patients were seen weekly by community nurses serving rural HPs.

More than six out of ten patient visits (64%) to HPs were conducted for basic MCH services. However, more than half of all visits were for children under 14 years of age with the vast majority of childcare visits relating to immunization and routine well-child check-ups. Women's care, including ANC, PPC and FP, does not constitute the major part of the HP nurse's current workload. Based on previous experience working with community nurses we anticipate a significant increase in the number of MCH visits in the coming years given current Project NOVA community-level interventions.

Community nurses are referring almost all women attending HPs for ANC and half of the women attending for PPC and FP to the supervisory healthcare facility, where they can receive care and/or FP services.

Recommendations

- Since the largest proportion of healthcare services provided by community nurses at the rural HP are for MCH, we recommend that the (re)training of community nurses focuses on these critical issues. Such trainings will improve nurses' knowledge and skills in key MCH service delivery and health education, and will contribute to the reduction of maternal and child mortality and morbidity.

The study findings also show that community nurses refer a vast majority of sick childcare patients (69%) to the polyclinics and/or hospitals and not to medical ambulatories. Medical ambulatories are located in relative proximity to the communities with a HP and are staffed with doctors capable of managing childhood illnesses having received training in pediatrics during their pre-service education and in-service training on Integrated Management of Childhood Illnesses.

Recommendations

- Guide HP nurses on viable referral patterns to increase proportion of sick-child care referrals to family physicians posted in rural communities at medical ambulatories.

More than one out of four patient visits (23%) to rural health posts were due to acute and chronic adult conditions, such as CHD, urinary tract infections, acute respiratory illnesses and other acute conditions. In spite of the community nurses' perception of the high prevalence of chronic conditions in their communities, which assumes a high demand for adult chronic care at rural health posts, only 13% of all visits to health posts were reported for adult chronic conditions.

Recommendations

- Explore the possibility of expanding the role of HP nurses in providing basic care for chronic conditions, such as diabetes, hypertension and allergies.

Although the majority of the nurses (80%) reported the availability of running water in their

community, 74% of them considered *clean* water a public health problem.

Negative health behaviors, such as drinking alcohol and smoking, were considered a public health problem by 52% and 84% of nurses respectively.

Recommendations

- Equip HP nurses with materials and tools to work with the community more actively and to encourage health education of the population based on health needs of the community.

5. APPENDICES

Appendix 1: Data Collection Form



Health Post Utilization Questionnaire

Dear nurse,

With this form we would like to collect data on how your community utilizes services offered at your health post. Completing this form will not take more than 20 minutes. Please record all the data we ask and bring this form to your next visit to the Project NOVA training (pre-post session). We would appreciate your accurate answers to the questions. This is very important to us, because we are trying to measure the scope of the health post's current practice and make recommendations related to your work and future professional development opportunities. There is no need to put your name or the name of your community on the form, as this information will be analyzed in bulk.

Date of completion _____

I. Please provide information on the purpose of visits to your health posts during the period of January 1 – December 31, 2007.		II. Please indicate how many referrals did you made to your supervisory healthcare facility(s). Please write A for ambulatory, P for polyclinic and H for hospital.		
<i>Purpose of the visit</i>	<i># of visits</i>	<i>Referral for</i>	<i>No.</i>	<i>Facility Code</i>
A. Child healthcare visits (up to 14 years)		Postpartum care		
-Immunization		Antenatal care		
-Routine well-baby		Sick child care		
-Acute respiratory infections		STIs services		
-Diarrhea		Family planning		
-Injuries and poisoning		Other (specify):		
-Other (specify):				
B. Women's healthcare visits		TOTAL:		
-Antenatal care		III. Based on your current experience working as a nurse, please list five the most common diseases in your community ranking them from 1 to 5.		
-Postpartum care				
-Gyn. care (STIs, menopause, (pre)cancer, etc.)				
-Family planning				
-Other (specify):				
C. Adult chronic conditions visits		1.		
-Diabetes		2.		
-Cardio-vascular conditions, inc hypertension		3.		
-Vision		4.		
-Oncological diseases		5.		
-Other (specify):		IV. Please respond to the following questions		
D. Adult acute diseases/infections visits		Do you consider smoking as a public health problem in your community?		
-Injuries and poisoning		<input type="checkbox"/> Yes <input type="checkbox"/> No		
-Acute respiratory infections				
-Heart attack		Do you consider drinking as public health problem in your community?		
-Urogenital disorders		<input type="checkbox"/> Yes <input type="checkbox"/> No		
-Other (specify):				
E. Adolescents (ages 14-19) healthcare visits		Do you consider clean water as a public health problem in your community?		
F. Other visits		<input type="checkbox"/> Yes <input type="checkbox"/> No		
TOTAL (A+B+C+D+E+F):		Do you have running water in your community?		
		<input type="checkbox"/> Yes <input type="checkbox"/> No		

Thank you for your time!