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Integration of NOVA's In-Service Safe Motherhood Clinical Skills Training into Pre-Service Training Curriculum of Nurses and Midwives at Medical Colleges

PILOT PROJECT IMPLEMENTATION, RESULTS AND RECOMMENDATIONS

September 2008

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Table of Contents

Table of Contents ii
List of Tables and Figures ii
Authors iii
Contributors iii
Acknowledgements iii
Acronyms iv
I. Background 1
Challenges and Opportunities 2
II. Pilot Design 4
Goal and Hypothesis 4
Description 4
Learning Materials 5
Monitoring Learners' Progress 5
Implementation Challenges 6
III. Results 7
IV. Findings and Recommendations 8
V. Appendices 11
Appendix 1: List of Professionals Involved in the Adaptation of Training Package 11
Appendix 2: Instructional Design Workshop Agenda 12
Appendix 3: Gyumri and BMC Faculty Members Orientation Agenda 13
Appendix 4: Results of the Knowledge and Skills Evaluation 14

List of Tables and Figures

Table 1. Number of Rural Community Nurses Trained in SMCS in 2002-2008 1
Table 2. Number of Medical College Students Participating in Evaluation of the Pilot Project 7

Figure 1. Performance of Community Nurses in Antenatal Care Before and After SMCS Training 2
Figure 2. Performance of Community Nurses in Postpartum Care Before and After SMCS Training 2
Figure 3. Results of Medical College Students Knowledge and Skills Evaluation 7

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Acronyms

AMTSL	Active Management of Third Stage of Labor
GoA	Government of Armenia
GSMC	Gyumri State Medical College
HP	Health Post
MCH	Maternal and Child Health
MoH	Ministry of Health
PHCR	Primary Health Care Reform Project
PRIME II	USAID project focused on strengthening the performance of primary care providers as they work to improve services in their communities
RH	Reproductive Health
SMCS	Safe Motherhood Clinical Skills
USAID	United States Agency for International Development
YSBMC	Yerevan State Basic Medical College

I. Background

Under the terms of the PRIME II Project in Armenia during the period of 2001 – 2004, IntraHealth International piloted a health program in Lori Marz (province) designed to improve reproductive health (RH) services in rural areas. Among many other interventions, PRIME II launched an innovative combined learning initiative for rural community nurses aimed at improving their clinical skills in counseling, infection prevention, antenatal care, intrapartum care, postpartum/newborn care, infant care, and community outreach. PRIME II worked with a local advisory group to establish clinical practice sites, develop training materials and create a facilitation team. Written materials included clinical guidelines, interactive self-paced modules, clinical checklists and a facilitator's guide. Self-paced interactive learning modules for each clinical component served as the centerpiece of the training program. Implementation of each module took approximately four to six weeks for all learners to complete. A module consisted of working through the self-paced exercises with a learning partner. Once learners successfully completed the theoretical component, they went for clinical practice, first demonstrating their knowledge and skills on mannequins and in role-plays and then seeing patients[1].

> *Learning for Performance* is an instructional design process that is targeted to fix a performance problem or gap when workers lack the essential skills and knowledge for a specific job responsibility, competency or task. The *Learning for Performance* process combines experience in two key areas: performance improvement and instructional design. This process can be used to develop learning interventions of any scale.

Key PRIME II interventions were scaled-up by USAID Project NOVA in other marzes of Armenia. Project NOVA is a five-year health initiative designed to improve quality of and access to RH and maternal and child health (MCH) services in rural Armenia. For the first two years, from October 2004 to September 2006, Project NOVA provided technical assistance in RH in five Northern Armenian marzes. In October 2006, the Project completed its interventions in the North, and launched an expanded scope of work in five health networks[2] – Armavir, Vedi, Talin, Sisian and Vayk – one in each Southern Marz (Armavir, Ararat, Aragatsotn, Syunik and Vayots Dzor). NOVA's programmatic activities include training of healthcare providers – nurses, midwives, and physicians – to improve healthcare services in rural areas, provision of basic equipment and supplies to healthcare facilities, strengthening policy formulation and implementation, and creating partnerships between healthcare facilities and the communities they serve.

Table 1. Number of Rural Community Nurses Trained in SMCS in 2002 - 2008

Marz	No. Nurses
Lori*	88
Shirak	46
Tavush	34
Gegharkunik	50
Kotayk	29
Aragatsotn	35
Armavir	13
Ararat	14
Vayots Dzor	15
Syunik	25
TOTAL	349

*Includes 61 nurses trained under PRIME II

The flagship training program of USAID Project NOVA is the learning for performance in-service training program for rural community nurses in Safe Motherhood Clinical Skills (SMCS). Rural community nurses staff primary healthcare facilities known as health posts (HP) located in small rural Armenian communities. An estimated 628 HPs exist in Armenia that serve a rural population of 400,000 people[3]. Although present utilization of rural HPs is relatively low, the findings from a NOVA study indicate that 64% of patient visits are for basic MCH services[4].

[1] PRIME II Armenia Final Report, September 2004.

[2] Health Network is defined as health facilities linked both by ownership structure and referral patterns. A USAID NOVA RH/FP/MCH 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.

[3] Health Systems in Transition; Armenia Health System Review, Volume 8, No. 6; 2006.

[4] Rural Health Post Attendance Review, USAID Project NOVA, June 2008.

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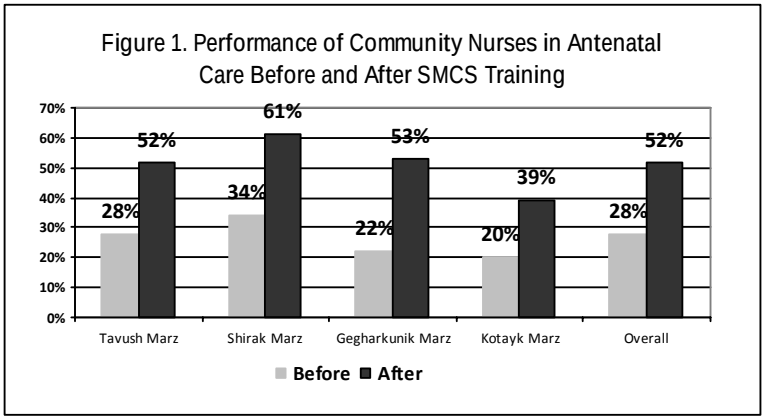
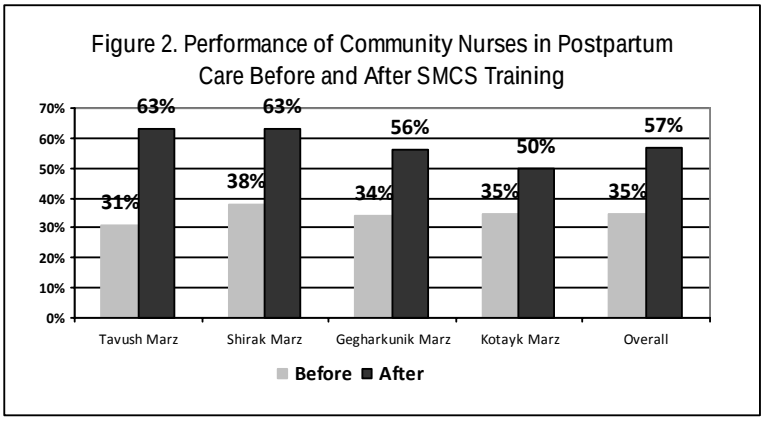


NOVA's comprehensive six to nine month training course for community nurses emphasizes management of low-risk pregnancies, identification of the early pregnancy danger signs, treatment and resulting referrals, newborn and postpartum care, community education, and modern infection prevention practices. NOVA conducted the SMCS in-service training in all 10 Armenian marzes which included 349 community nurses (Table 1) and covered more than half of all rural HPs. It has proven not only to significantly increase clinical knowledge and skills among practicing community nurses serving the most deprived Armenian population, but also to have a dramatic impact on their performance. Data from Project NOVA baseline and follow-up assessments in Tavush, Shirak, Gegharkunik and Kotayk Marzes indicate that the community nurses performance following NOVA's in-service SMCS training increased on average 24% for antenatal care and 22% for postpartum care (Figures 1 and 2) as measured by observation of real and simulated clients using a standardized checklist[5].



Challenges and Opportunities

In Armenia, as in other countries in the former Soviet Union, the nursing profession was increasingly neglected over time. Nurses did not see themselves as patient advocates, patient educators, critical thinkers, or decision-makers and functioned largely as low-level aides to physicians. Since Armenia's independence in 1991, nursing has undergone a further crisis due to a lack of professional standards for nurses, an inability of nurses to engage in clinical or administrative decision-making processes and a lack of adequate nursing programs. The Government of Armenia (GoA) launched its response starting in 1997, by designing and introducing overall changes in the nursing field. However, despite the Armenian Ministry of Health (MoH) and NOVA's efforts, as well as and those of other international organizations working in Armenia, nursing and midwifery is still underdeveloped. Their current practice still reflects a traditional, dependent, helping role with little expectation of independent judgment or clinical decision-making.

Currently, pre-service (basic) training in nursing and midwifery is offered through a network of ten public medical colleges supervised by Yerevan State Basic Medical College (YSBMC) and a group of approximately 39 private nursing colleges. All medical colleges use the state-approved training program where subjects and the number of hours allocated for each subject are standardized. However, the detailed technical contents and training methodology are not regulated by the government and are subject to interpretation by each college.

[5] Key Reproductive Health Activities by Project NOVA in Northern Armenia. Internal Project Evaluation in Shirak, Tavush, Gegharkunik and Kotayk marzes, USAID Project NOVA, September 2008, Draft unpublished.

Considering the impressive training outcomes of NOVA's in-service SMCS training that lead to significant improvements in providers' performance, Project NOVA explored the possibility of integrating its SMCS training course into the existing pre-service nursing/midwifery training curricula. In 2005 Project NOVA invited Dr. Judith T. Fullerton, Ph.D., CNM, FACNM to Armenia to evaluate the feasibility of incorporating the SMCS training program into regional medical colleges. The feasibility assessment was conducted using information obtained through a literature review, key informant interviews, inventories of RH/MCH equipment and supplies, and observational site visits to nursing academic and clinical teaching settings. The findings of this technical consultation supported the conclusion that it is not only feasible, but also highly desirable, and to the advantage of the relevant GoA Ministries, the education programs, and the students. Thus, Project NOVA and medical college counterparts created the Gyumri pilot program to integrate the SMCS into the basic nursing, family nursing and midwifery[6] curricula and to test its effectiveness in increasing students' knowledge and skills.

[6] Judith T. Fullerton; Trip Report, Project NOVA internal document, September 2005

II. Pilot Design

Goal and Hypothesis

After careful deliberation based upon the recommendations from the feasibility study, Project NOVA selected the Gyumri State Medical College (GSMC) as the pilot site for this pre-service SMCS integration initiative. The purpose of the Gyumri pilot project was to test the effectiveness of pre-service training curriculum for nurses and midwives based on NOVA's SMCS training package and approaches. Pilot hypothesis included the following:

- Medical college students' knowledge in the area of MCH will increase following the introduction of the integrated training curriculum and training/teaching methodology compared to the previous training curriculum and methodology.

- Medical college students' clinical skills in the area of MCH will increase following introduction of the integrated training curriculum and training/teaching methodology compared to the previous training curriculum and methodology.

Description

In September 2006 Project NOVA established a Working Group (See Appendix 1 for a list of the Working Group members) with representatives from the YSBMC, GSMC and MoH to develop pre-service training curriculum for nurses and midwives with a focus on MCH by integrating the SMCS training modules. Prior to the development of the pre-service curriculum, Project NOVA held five-day training in instructional design (See Appendix 2 for training agenda) for key faculty members from YSBMC and GSMC to aid in the development of the curriculum. Dr. Larisa Aghababyan facilitated the training with the assistance of Dr. Karen Adamyan, Project NOVA's Maternal Health Specialist. The training taught participants the overall methodology as well as gave them practical instructions on the development of educational materials using instructional design. This included the development of goals, objectives, educational materials, guidelines, checklists, pre-course and post-course tests. Members of the Working Group and Project NOVA staff met over a six-month period to develop and finalize the curriculum including:

- An outline of the pre-service nursing training curriculum by technical area then broken down by topic and lesson using the state-approved number of teaching hours disaggregated by technical area theory and practicum;
- Detailed lesson plans using clinical materials and the training/teaching methodology from NOVA's in-service SMCS training curriculum; and
- MOH approval to pilot pre-service nursing/midwifery training curriculum at the GSMC.

During this time they also discussed and developed the following:

- Training for faculty members from GSMC in the use of the pilot curriculum;
- Monitoring and evaluation tools including the collection of baseline and endline data on the knowledge and skills of medical college students; and
- Documentation and dissemination of pilot results and if successful, discuss options for rolling out new curriculum at other medical colleges in Armenia.

The pre-service curriculum includes a detailed course outline, an agenda for all technical sessions, knowledge and skills evaluation instruments (i.e. tests and clinical checklists) and a detailed description of topics. It consists of 182 hours for practical training and 80/88 hours for theoretical training for a total of 262 hours for nursing faculty and 268 hours for midwifery faculty students.

As requested by the MoH, each technical area of the training curriculum was reviewed by leading national experts from the National Institute of Health, Yerevan State Medical University, YSBMC and Erebuni Hospital. Reviewers found the content of the course applicable and well-adapted for use as the state pre-service curriculum and also emphasized the importance of applying Learning for Performance approach. The vast majority of the comments comprised technical and editorial remarks which Project NOVA took into consideration and incorporated into the final version. The curriculum was submitted to the MoH for approval as a pilot project at the GSMC.

Following MoH approval, the Gyumri pilot initiative started in September 2007 and continued through the end of the academic year (May/June 2008).

Project NOVA developed a monitoring and evaluation plan to include regular visits by Project staff to the GSMC. During those visits staff collected information both on the content and teaching methodology used at the observed training session and pre-test and post-test of knowledge and skills for students participating in the pilot program.

Learning Materials

The learning materials were developed, published and distributed to the students and teaching faculty of the GSMC for use in the 2007/2008 academic year. For trainers, the curriculum included a detailed outline of each session with methodological instructions, tests and clinical check-lists. For students, it included core reading material, case studies, role plays, pre- and post-tests and learning guides. The set of learning materials for students and teaching faculty consisted of eight modules, job aids, learning guides and clinical protocols.

Topics covered included:

- Basics of nursing
- Infection prevention
- Infant care
- Newborn care
- Normal obstetrics and pathological obstetrics
- Working with the community

A total of 153 students from the nursing and midwifery departments participated in the pilot initiative. The faculty included key teaching staff of the GSMC who were already involved in NOVA's activities as regional trainers and had participated in the training-of-trainers in instructional design.

Monitoring Learners' Progress

The monitoring plan included regular visits by the Project staff to the GSMC and technical support throughout the pilot's implementation. Staff monitored the following during their visits:

<u>Content</u>

- To what extend the teaching staff adhered to content of the syllabus.
- What problems/discrepancies occurred related to course syllabus.
- To what extent the teaching staff adhered to the timing and class agenda/schedule.
- To what extent session objectives were met. Which were not met and why?

<u>Teaching methodology</u>

- Did the teaching staff use the audiovisual materials during the class?
- Did the teaching staff use interactive techniques during the class?
- Did the teaching staff and students use mannequins?
- Were textbooks available for each student?

Implementation Challenges

Reports from monitoring visits revealed that faculty members adhered to the content and syllabus and routinely used audiovisual material and interactive training methodology. However, training rooms at GSMC are small and inconvenient for classroom training. While the faculty worked to improve the quality of teaching, much work remains to be done. Another challenge to quality pre-service teaching is the difference between the number of students and available resources: there are not enough trainers and rooms for clinical practice in hospitals, etc.

III. Results

Table 2. Number of Medical College Students Participating in the Evaluation of the Pilot Project

Medical college students	Pilot Medical College		Control Medical College
	Baseline	Endline	
3rd Year Nursing Students	28	27	22
3rd Year Midwifery Students	28	30	6
4th Year Midwifery Students	30	28	4
Total	86	85	32

The evaluation framework of the Gyumri pilot initiative included knowledge and clinical skills testing for nurses and midwives before the pilot to establish a baseline (at the end of 2006-07 academic year in May 2007) as well as collecting endline data (at the end of the 2007-08 academic year in May – June 2008). The evaluation included not only the pilot medical college students but another state medical college as well which served as a control site. Assessment of knowledge and skills at the control college took place at the end of the 2007/2008 academic year in May 2008. Overall, 203 medical college students from control and pilot colleges participated in the evaluation (Table 2).

Because of the complexity of implementing this training program and since its integration into the pre-service nurse training implies all three/four years of the nurse/midwife training, it was decided to limit the training course evaluation only to the basic components of the pilot initiative: antenatal care, postpartum care, and intrapartum emergencies.

Evaluation of the pilot initiative measured students' knowledge through the use of questionnaires and assessed their clinical skills using observation checklists. The questionnaires and checklists were developed based on the pilot course curriculum.

Figure 3. Results of Medical Colleges Students Knowledge and Skills Evaluation

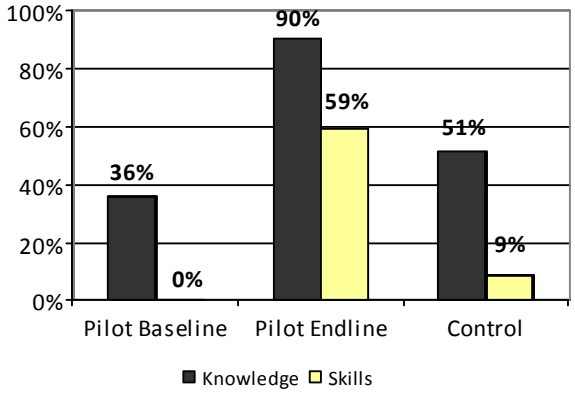


Figure 3 presents the summary of knowledge and skill evaluation results at both pilot and control state medical colleges. Knowledge and skills of medical college students at the pilot site increased a remarkable 54% and 59% respectively (from 36% and 0% at baseline), and also are significantly higher compared to the control site.

Mean knowledge increase of nurses was higher than mean knowledge increase of midwives; however, mean increase of clinical skills performance was almost equal for nurses and midwives (Appendix 4).

Graduating students who completed the pilot curriculum (both nurses and midwives) showed higher increase as compared with other students, leading to conclusion that they get better preparation to the practice at the final year of their education (Appendix 4).

Students from the control college were also assessed for the purpose of comparison. Overall, the knowledge and skills of the students from the control college are comparable to the knowledge and skills of students from the pilot site at baseline, except for immunization skills, which were significantly higher in the control group. However, given the overall low number of midwifery students in the control group (n=32), these comparisons should be interpreted with caution.

IV. Findings and Recommendations

During the implementation and evaluation of the pilot initiative it became clear that healthcare leaders and educators in Armenia are committed to the integration of MCH clinical skills into the pre-service education of nursing and midwifery students. ***The integration of NOVA's SMCS training modules into the pre-service education of nurses and midwives proved successful in providing medical college students with the basic skills in nursing and midwifery as well as increasing their fundamental knowledge in midwifery and MCH-specific nursing.***

Based on the overall findings from the Gyumri pilot, Project NOVA ***recommends rolling out technical contents as well as Learning for Performance approach and methodology*** in the tested pre-service training curriculum throughout all state medical colleges of Armenia. Learning for performance is an internationally recognized and established strategy in strengthening clinical skills transfer and overall clinical teaching, but its use in Armenia is in the nascent stage.

Although results of the pilot study have been impressive and will be beneficial for Armenia, a number of hindering factors at the state and regional levels were identified by Project NOVA during its implementation at Gyumri Medial College that need to be addressed in order for the national roll-out to be successful.

1. **Lack of the state-approved unified training curricula and requirements for undergraduate nursing and midwifery education:** Currently all state medical colleges in Armenia use state-approved training program outline universal for all medical colleges. However, the undergraduate training program only provides information on the number of hours allocated to certain subjects, timing of the subject introduction, as well as the breakdown between theory and clinical practice. Medical colleges do not have mandatory curricula, including standard tests and other knowledge and skills evaluation tools. No description of teaching/training requirements exists to standardize the training for mid-level personnel given their evolving scope of practice. This is especially true for community nurses providing primary healthcare in rural HPs with minimal management and technical support from their supervisory facilities.

Recommendations

- The results of Gyumri pilot shall serve as a springboard for the development of the unified training curriculum for state medical colleges and for the introduction of the Learning for Performance methodology into the state pre-service curriculum as one of the key requirements for undergraduate education for mid-level personnel.
- The added value of Learning for Performance shall be acknowledged and supported by the State and advocated for at the national and regional levels involved in administering pre-service medical education for nurses and midwives.
- Management of regional medical colleges shall reinforce the introduction of the Learning for Performance principles and teaching methodologies in the routine training sessions conducted by their faculty.
- Teaching faculty of regional medical colleges shall attend Training-of-Trainers courses on modern teaching methodology.

2. **Insufficient clinical practice:** Basic education for nurses and midwives in Armenia emphasizes theory over practice and is currently not designed to have skills-efficient graduates, thereby hindering midwives and nurses' abilities to practice independently especially in the far-to-reach areas where there are no any doctors. Current state-approved overall allocation of teaching hours at medical colleges for the clinical practice is inadequate. In addition, medical college teaching faculty has shorter and quicker teaching

sessions due to their simultaneous involvement in clinical practice. Clinical preceptors are constantly facing the same dilemma: as practicing clinicians they can not leave their patients unattended; but in case of attending patients and teaching simultaneously, the quality of teaching sessions is potentially jeopardized. It is critical for the medical college students to have an opportunity to practice and master their skills in a clinical setting and to see real patients in order to be better prepared for practice.

Recommendations

- Existing state undergraduate training program for medical colleges shall be revisited in order for the teaching faculty to have an appropriate number of teaching hours which will enable them to combine their clinical practice (e.g., at the maternity as practicing ob/gyns) with their teaching workload. A possible solution could be the re-allocation of staff time to increase the teaching hours for those faculty who are not overburdened by their patient load.

- A pool of national and regional level clinical preceptors capable of replicating Learning for Performance approaches in the undergraduate education shall be established as an important step towards potential roll-out of a similar experience into the Armenian pre-service training curricula.

3. **Poor physical conditions and lack of proper training resources:** In order for the regional medical colleges to deliver Learning for Performance education for their students they need to have all training necessities available to them. This includes but is not limited to the training mannequins, textbooks and other reference materials, desks, chairs, and audio-visual equipment.

Recommendation

- The State and regional authorities need to work together to ensure availability of proper training equipment, supplies and materials in all state-funded regional colleges.

4. **Lack of faculty motivation and incentives:** The state salaries of the teaching faculty at regional colleges are low. Staff has little to no motivation or incentive to be engaged in the institutionalization of the new training methodologies and approaches. Although introduction of a new initiative or concept will not increase teaching faculty workload or working hours, it will require significant behavior change, which might be viewed as a challenge. Considerable time and effort will be necessary to ensure faculty buy-in and for them to learn the new training methodologies during the initial stage of national roll-out.

Recommendation

- If feasible, state allocations for the reimbursement of pre-service teaching faculty salaries at colleges should be revised and, appropriate adjustments in the compensation schemes made.

5. **Excessive number of student admissions:** Undergraduate training of healthcare professionals is implemented by educational institutions licensed by the Armenian MoH and/or Ministry of Education and Science. Presently Yerevan State Medical University, ten private medical universities, 11 state and 39 private medical colleges are engaged in the preparation of mid-level personnel for Armenia's 3.2 million people. Although the number of nursing graduates per 1,000 practicing nurses has been decreasing, it continues to be high. In 2007 the number of nursing graduates at state medical colleges alone was recorded at 113.4 per 1,000 practicing nurses[7]. Yet in almost all developed countries with better than Armenia health indicators (i.e. higher life expectancy and lower infant mortality rates), the number of nursing graduates per 1,000 practicing nurses is considerably lower.

[7] "Health and healthcare in Armenia", ROA Ministry of Health National Institute of Health, 2007, pp. 87, 103, [http://www.niharm.am]. Accessed in September 2008.

Recommendations

- Workforce planning is the cornerstone of the effective provision of the healthcare. The profile of the healthcare workforce shall be designed to meet the demand for healthcare, and then appropriate steps shall be taken to match the supply of healthcare workers to the demand. This is a complex undertaking that shall involve: identifying healthcare needs and how healthcare services aim to meet them; clarifying roles and functions of each category of healthcare workers; reviewing education programs to ensure that healthcare workers are properly prepared for their roles; determining the number of staff needed, and regulating labor supply; offering incentives to the health workers, including better pay, better working conditions, and opportunity for professional growth.

- The number of students' admissions shall be tailored to the existing local needs, training requirements and training capacities: there should be an ongoing dialogue with Marz Health Department Human Resources Unit to meet marz yearly needs in nurse and midwife manpower. The training capacities of the colleges and client load of the clinical teaching faculty shall also be considered in order to create an adequate basis for clinical teaching and practice.

Crucial first steps have been taken by Project NOVA in piloting and integrating Learning for Performance approach for MCH into the pre-service education for nurses and midwives. Nevertheless, significant work remains to be done by the State Medical Colleges and the MoH in the adaptation of the training curriculum and its implementtation nationwide.

V. Appendices

Appendix 1: List of Professionals Involved in the Adaptation of Training Package

List of Professionals Involved in the Adaptation of NOVA's In-service SMCS Training Packages for Pre-services MCH Training Curriculum for Medical Colleges

No.	Name	Facility	Title
1	Nune Kreyan	Gyumri State Medical College	Leading Training Methodology Specialist
2	Rima Khachatryan	Gyumri State Medical College	Head of the Training Methodology Unit
3	Hranush Avetisyan	Gyumri State Medical College	GP Faculty, Chair
4	Lianna Gevorgyan	Gyumri State Medical College	Ob/Gyn Faculty, Chair
5	Alina Hovhannisyan	Gyumri State Medical College	Pediatrics Faculty, Chair
6	Naira Mkoyan	Gyumri State Medical College	Ob/gyn
7	Roza Aslanyan	Gyumri State Medical College	Neonatologist
8	Karine Mkhitaryan	Gyumri State Medical College	GP
9	Varduhi Arzumanyan	Basic Medical College	Nursing Faculty, Chair
10	Karine Mnatsakanyan	Basic Medical College	Infectious diseases Faculty, Chair
11	Anahit Martirosyan	Basic Medical College	Ob/Gyn Faculty, Chair
12	Susanna Abrahamyan	Basic Medical College	Pediatrics Faculty, Chair
13	Anna Tadevosyan	Basic Medical College	Ob/gyn

Appendix 2: Instructional Design Workshop Agenda

Monday	Tuesday	Wednesday	Thursday	Friday
Opening Workshop Overview (Goals, Objectives, Schedule) Pre-workshop questionnaire Identify learning needs Identify expectations Presentation: Approach to Clinical Training Presentation: Instructional Design Process • ID process • Pre-& -in-service Presentation: Assessing Training Needs	Agenda & opening activity Presentation: Instructional Content Analysis • Knowledge analysis • Skill analysis • Attitude analysis Discussions: Content availability for materials to be developed Presentation: Designing a Training Course • Develop a course syllabus • Develop training objectives • Select practice activities • Select training methods • Select training materials Exercise: develop a course syllabus	Agenda & opening activity Presentation: Designing Skill Development and Assessment Instruments • Definitions • Skill development levels • Advantages & limitations • Rating systems • Designing instruments • Using instruments Exercise: Revise or adapt learning guide and checklist.	Agenda & opening activity Presentation: Developing trainer and participant materials • Trainer's notes • Presentation plans • Assignment sheets • Case studies • Role plays Exercise: Develop training materials appropriate for the training course being developed or revised – groups will share the results of their work	Agenda & opening activity Presentation: Status of the various components of the training courses being developed Activity: Administer and score final questionnaire; review the results. Small Groups Work: Discussions of next steps and action plan development
Lunch	Lunch	Lunch	Lunch	Lunch
Exercise: Needs assessment case study Discussions: Review of the components of a standard training package. Discussions: Review of the materials to be developed during the workshop. Formation of working groups. Review of the day's activities	Presentation: Designing a Training Course • Develop a course outline • Develop a course schedule Exercise: Develop a course outline & schedule Presentations: Groups share the results of their work Review of the day's activities	Presentation: Developing Knowledge-based Assessments Exercise: Develop or revise a pre-course and midcourse questionnaire – groups will share the results of their work Review of the day's activities	Presentation: Evaluating training • Levels • Participants reactions • Participants learning • Post-training performance • Impact of training on RH services Exercise: Develop or revise course evaluation instruments Review of the day's activities	Activity: presentation of action plans Workshop summary Workshop evaluation Closing ceremony
Homework Assignment	Homework Assignment	Homework Assignment	Homework Assignment	

Appendix 3: Gyumri and BMC Faculty Members Orientation Agenda

TIME	DAY 1	DAY 2
10:00-11:45	Opening Goals and objectives Introductions/Ice-breaking Logistics Establishing norms	Review of Day 1 Facilitating the Learning Process • How will Facilitators, learners, and managers keep track of progress? • Pilot Initiative Monitoring: BMC and NOVA • Introduction of Project NOVA tracking tools
11:45-12:00	BREAK	
12:00-13:30	An Approach to Clinical Training • Goal of clinical training • Mastery learning/Competency-based training • Features of clinical training • Responsibilities Using Competency-Based Assessment Instruments • Knowledge assessments • Skill assessments Demonstration: Introduction to anatomic models; participants practice care and maintenance of the models	Small group discussions: How effectively organize the learning process Presentations of the representatives of different groups (ob/gyns, pediatricians, infectious diseases specialists, etc). • Timetables • Possible challenges • Suggestions
13:30-2:00	LUNCH	
2:00-3:30	Developing Clinical Skills • Skill transfer and assessment • Effective coaching • Using anatomic models • Clinical demonstrations Content • How are the materials organized? • Modules (theory, situational cases , knowledge and skills evaluation tests) • Job aids • Checklists	Planning for upcoming activities • Calendar • Learner assessments
3:30-3:45	BREAK	
3:45-5:00	Demonstration: Clinical role play showing effective demonstration and coaching skills. Summary of the Day 1	Initial Assessment and Evaluation Logistics and Next Steps Orientation Wrap-up

Appendix 4: Results of the Knowledge and Skills Evaluation

Results of the knowledge and skills evaluation among medical college students at pilot and control medical colleges before and after introduction of the training curriculum

Variables	Pilot Baseline	Pilot Endline	Control	% increase (for Pilot only)
Nurses 3rd year	n=28	n=27	n=22	
Skills				
AMTSL	0%	55.5%	0%	55.5%
Immunization	0%	63.0%	35%	63.0%
Knowledge				
Antenatal care, postpartum care, intrapartum emergencies	30.36%	98.5%	69%	68.1%
Midwives 3rd year	n=28	n=30	n=6	
Skills				
AMTSL	0%	40.0%	0%	40.0%
Immunization	0%	50.0%	17%	50.0%
Knowledge				
Antenatal care, postpartum care, intrapartum emergencies	30.14%	75.2%	40%	45.1%
Midwives 4th year	n=30	n=28	n=4	
Skills				
Aorta compression	0%	68%	0%	68%
Manual Removal of Placenta	0%	75%	0%	75%
Knowledge				
Antenatal care, postpartum care, intrapartum emergencies	48.30%	95.7%	43%	47.4%