



**GARO MEGHRIGIAN EYE INSTITUTE FOR PREVENTIVE OPHTHALMOLOGY
CENTER FOR HEALTH SERVICES RESEARCH AND DEVELOPMENT
THE AMERICAN UNIVERSITY OF ARMENIA**

REPORT

To the Ministry of Health of Republic of Armenia

**The Overview of the Results of the Planning Workshop leading to
a National Strategic Plan on Prevention of Blindness (NSP) in
Armenia**

(sponsored by Christoffel Blindenmission International)

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Executive Summary

In order to advance the establishment of an efficient structure for blindness elimination and prevention of severe visual impairments, coordinate activities in the field of eye care, and attract funds for eye care in Armenia, the MOH with consultancy support from the WHO Prevention of Blindness office, technical assistance of the Garo Meghriyan Eye Institute for Preventive Ophthalmology of the Center for Health Services Research and Development at the American University of Armenia (GMEIPO/AUA) and financial support from Christoffel Blindenmission (CBM) is developing a National Strategic Plan for Prevention of Blindness in Armenia (NSP).

The midpoint of the process of NSP development was a three-day Workshop aimed at

- conducting in-depth analysis of eye care system in the country;
- projecting the targets of comprehensive eye care within the Vision 2020 concept for each marz and Armenia as a whole and formulating strategies to achieve them within 5 year;
- exploring ways and means of mobilizing resources for the five year plan and identifying roles and responsibilities of various stakeholders in the implementation of the plan;
- defining parameters for monitoring and evaluation of eye care service delivery in the country

The Workshop took place on June 8-10, 2005 in Congress Hotel, Yerevan, Armenia.

Overall, 22 participants attended the workshop, among them representatives of the major NGOs involved in eye care in the country, heads of eye clinics, and several leading specialists in a particular field of eye care (e.g. diabetic retinopathy, glaucoma). The workshop facilitators organized the workshop as a forum and open discussion, providing opportunity to all participants to talk and express their opinion on the main topics: Disease control, Infrastructure, Education, and Systems to support NSP implementation.

Participants reviewed the MOH data and results of a population-based assessments of eye diseases. It was estimated that the cataract surgery is reaching only one third of those in need, with significant gender gap. The rate of poor and borderline visual outcomes after cataract surgery is 5 times more than the accepted WHO standard. Glaucoma and diabetic retinopathy are mainly diagnosed in the late stages of the disease with poor prognosis. Population based data showed that the most frequent barriers to eye care are financial and geographic barriers and lack of knowledge.

In order to tackle the above-mentioned problems, the participants thoroughly reviewed the eye care delivery system in Armenia (infrastructure, systems, financing, and quality) and made recommendations. The workshop participants and international experts concluded that the overall infrastructure of eye care in Armenia (specialists, services and etc.) is satisfactory, but there is a significant lack of material sources and public education.

The participants emphasized the importance of primary eye care, particularly related to the main blinding conditions in Armenia and their early detection and suggested to organize educational programs and self screening sessions using TV. All participants agreed that reinvigorating of the secondary level of eye care through strengthening the existing regional ophthalmic units and establishing 2-3 new laser centers in regions should be one of the most important objectives of the NSP.

The childhood blindness was of particular interest to all participants. The total number of pediatric ophthalmologist in the country is insufficient. There is a need to introduce policy related to the screening of preschool and school age children. Retinopathy of prematurity was discussed as a new emerging problem, which has not been targeted in Armenia yet.

The information on ophthalmic education was analyzed. The participants emphasized the importance of strengthening practical training of ophthalmologists in Armenia, particularly in surgical training, as well as the necessity to equip clinical specialists/ophthalmologists with basic knowledge of public health/public health ophthalmology. Participants emphasized that the Continuing Medical Education delivered exclusively by the NIH would become more effective if cooperation with different academic institutions was established, especially in developing training curricula, and inviting visiting faculty to teach short-term courses. The workshop participants suggested to reestablish licensing and accreditation of ophthalmic personnel and introduce licensing of medical-optical facilities. There is a dire need to develop specialized courses for mid level eye care personnel.

All workshop participants discussed the need to increase efficiency of using the existing resources in eye care, through strengthening capacity of facilities and human resources importing high quality/reasonable cost equipment and supplies, particularly IOLs. Also, there is a need to redistribute the existing governmental resources to reach equality and distributional efficiency of eye care, through competition for patients within basic benefits package (BBP). More advocacy efforts and collaboration of all stakeholders will contribute to the attraction of external sources to support the process.

Overall, the Workshop reached its specific aims. During the next 3 months (July- September 2005) the MOH with technical support from the GMEIPO/AUA will prepare a draft version of the NSP, accumulating the comments and suggestions of the workshop participants.

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Background

The Armenian Health Care System has been going through a significant and difficult transition since the collapse of the Soviet Union. At present, ophthalmic services, particularly in the regions of Armenia, are operating at only 30-40% of its capacity because of poor financial and organizational situation as well as low geographic access. The yearly number of cataract surgeries performed in the country is only one-third of the expected number according to the international standards (Appendix I). All of the above leads to numerous cases of preventable blindness and reduced quality of life among population, making low vision and blindness an important public health problem for Armenia.

Although visual disability was not considered a priority problem in Armenia until recently, blindness and visual impairment have had far-reaching social, economic, and developmental implications for all age groups of the population. When visual disability occurs in childhood, it challenges children's development. In working age adults, it affects productivity. Across the life span and particularly among elderly people, it has its negative impact on the quality of life. The social and economic consequences for individuals, families, and communities are also serious. In general, vision loss results in increased poverty and dependency. Blindness and visual impairment are a harbinger of poverty. Considering the aforementioned reasons the evidence is clear: prevention of blindness is worthwhile investment, not only in human, but also in economic terms.

The Ministry of Health of Armenia (MOH), jointly with World Health Organization Head Quarters (WHO HQ) Prevention of Blindness, supports blindness prevention efforts in Armenia. WHO HQ Consultants made several visits to Armenia to explore the problem. The MOH is bringing together all involved parties, governmental and non-governmental structures, participating in combating blindness in Armenia, to achieve the common goal of elimination of preventable and treatable blindness. Moreover, the MOH plans to become a part of WHO Vision 2020 Initiative in the near future Armenia to participate in the blindness prevention worldwide .

In order to advance the establishment of an efficient structure for blindness control and prevention, coordinate activities in the field of eye care, and attract funds for eye care in Armenia from the International Non Governmental Developmental Organizations (INGDOs) involved in blindness prevention worldwide, the MOH with technical assistance from the Garo Meghriyan Eye Institute for Preventive Ophthalmology of the American University of Armenia (GMEIPO/AUA) and financial support from the Christoffel Blindenmission International (CBM) is developing a National Strategic Plan for Prevention of Blindness in Armenia (NSP).

The National Prevention of Blindness Committee (PBC) was established in 2004 to support MOH efforts in developing the NSP and address all problems pervading eye care system in the country. All stakeholders of eye care are included in this Committee.

The midpoint of the process of NSP development was a three-day Workshop aimed at

- Conducting in-depth analysis of eye care system in the country, including magnitude of blindness and low vision, eye care delivery in Armenia (infrastructure, systems, financing, quality), ophthalmic education, on-going eye care activities in the country (both Governmental and NGOs),

- Projecting the targets of comprehensive eye care within the Vision 2020 concept for each marz and Armenia as a whole and formulating strategies to achieve them within 5 years,
- Exploring ways and means of mobilizing resources for the five year plan and identifying roles and responsibilities of various stakeholders in the implementation of the plan
- Defining parameters for monitoring and evaluation of eye care service delivery in the country

Organization of the Workshop

Following the order of the Minister of Health, American University of Armenia provided technical support to the MOH in organization of the Planning Workshop leading to the NSP in Armenia.

The Workshop took place on June 8-10, 2005 in Congress Hotel, Yerevan, Armenia. It was facilitated by Dr. Pararajasegaram (WHO Consultant) and Dr. Naira Khachatryan (Principal Investigator, Garo Meghriyan Eye Institute for Preventive Ophthalmology of the American University of Armenia). The GMEIPO staff assisted as rapporteurs.

Overall, 22 participants attended the workshop, 7 more people participated in the opening ceremony including Dr. Davidiyan, the Minister of Health, Dr. Darbinyan, Deputy Minister of Health, and Dr. Vahan Poghosyan, Head of Medical Care Department, MOH (see Appendix II).

Given the workshop participants professional commitments, only a few of them were able to participate fully in the workshop. The workshop facilitators changed the structure of the workshop, making it more like a forum and open discussion, providing opportunity to everyone to talk and express opinion on the main topics: Disease control, Infrastructure, Education, and Systems to support NSP implementation. Several leading specialists in particular fields of eye care (e.g. diabetic retinopathy) presented the current situation and recommended objectives and strategies related to their specific field.

Results

The workshop assessed the **present situation in eye care** in Armenia. The prevalence and incidence of main blinding conditions such as cataract, glaucoma, diabetic retinopathy and childhood blindness were discussed. GMEIPO/AUA presented results of a rapid assessment of bilateral cataract blindness in persons 50 years of age and older in Gegharkunik marz based on WHO developed Rapid Survey of Cataract Surgical Services (RACSS) methodology. According to these data, there are an estimated 48,190 blind (bi-laterally and mono-laterally) adults aged 50 and over in Armenia, out of which 33,670 visual impairments are caused by operable cataract. However, these assessments are based on data from only one marz of Armenia, and the workshop participants provided reasons why these data could not be generalized to other marzes. Participants suggested performing a national survey on eye diseases among the ophthalmologists by using/spreading questionnaires, which would not be expensive and time consuming.

Participants of the workshop reviewed the **eye care delivery system** in Armenia, including such aspects as infrastructure/buildings, equipment, consumables, local market, systems/

primary, secondary, tertiary eye care, rehabilitation services, financing mechanisms and issues related to quality of care.

Population based data related to **cataract services** were presented. According to the RACSS results for Gegharqunik, the cataract surgical coverage (CSC eyes) was estimated at 36.5% (VA<3/60), higher for males (47.2%), than females (23.3%), a significant difference. This means that cataract surgery is reaching only one third of those who could benefit from it. Of all operated eyes, 22.9% had poor and borderline visual outcomes (WHO definition), which is 5 times more than accepted WHO standard (5%). The most frequently mentioned barriers to cataract care were financial and geographic barriers and lack of knowledge. These findings indicate the urgent need for the development and implementation of an action plan for the delivery of effective and quality eye care at low costs, aimed at resolving the large cataract backlog. Educational and motivational interventions should be considered in order to eliminate the gender gap in surgical coverage.

The majority of the workshop participants pointed out that consumables for cataract surgery, particularly IOLs are purchased mainly from private sources, the prices vary from 25 USD to 150 USD depending on the type and brand name. Very limited amount is provided by the MOH for the patients covered within the Basic Benefit Package. Some of the workshop participants notices that the IOL prices were decreasing worldwide and it was possible to purchase the full package for the cataract surgery for 12-15 USD. There is a need to establish new connections and introduce affordable and good quality products to the local market.

Glaucomas are considered the second important cause of blindness in Armenia. The participants emphasized the importance of public education related to glaucoma and its early detection and suggested to organize educational programs and self-screening sessions using TV.

The importance of the permanent control of people with glaucoma positive anamnesis was pointed out during the discussions and suggested using the available restricted financial resources on regular screenings/dispenserisation. Some of the workshop participants suggested that tonometric eye cabinets in policlinics could be reopened within “glaucoma early detection” efforts.

In policlinics or regional medical units of Armenia it is difficult to screen for glaucoma due to absence of appropriate equipment and staff training. In most policlinics, especially in marzes, the equipment is 30-40 years old (see Appendix III). The MOH representatives mentioned that policlinics are under the supervision of marzpetarans, they do not want to pay for expensive medical procedures, such as regular IOP measurements or fundus examinations. All the workshop participants agreed that the NSP should focus on glaucoma detection at the primary level of eye care.

The workshop participants were provided with information about the services available to combat blindness due to **diabetic retinopathy**. At present the treatment is provided only at the Republican Eye Clinic after Malayan and supported by the Armenian Eye Care Project (AECF) Mobile Unit. However, the total number of procedures performed yearly needs to be increased to correspond to the WHO estimates (~1500 yearly for Armenia). The workshop participants suggested 3 important approaches to deal with this issue. The first approach anticipates education for population, eye care providers at different levels of health care, and patients in order to ensure early diagnostics and appropriate treatment for diabetic retinopathy

cases. Overall, 90% of patients with diabetes are either socially vulnerable (low income) or have disability category. Meanwhile, BBP does not cover the laser treatment; the Republican Eye Clinic after Malayan provides 50% discount for diabetics. One laser surgery costs 100.000 AMD, which is high compared to the paying ability of the population. Mechanisms should be developed to make the treatment affordable to the majority of those in need. The third and important issue is the lack of necessary equipment. Having 2-3 additional laser centers in regions of Armenia would help fighting the problem.

The issue of **Eye banking was also discussed**. AECF is making steps forward in this matter, however there is still no law in the parliament for regulating donation of eye tissues. The problems related to **childhood blindness** was of particular interest to all participants and was discussed extensively during the workshop. There are 2 pediatric eye departments in Yerevan, which perform mainly surgical treatment of strabismus, congenital cataract, glaucoma, and scleroplastics. Overall, the total number of pediatric ophthalmologist in the country is less than it is expected according to the MOH standards. It was planned to have one pediatric ophthalmologist per 30,000 population. However, at present there are marzes where there are no ophthalmologists at all. For example, there is a special school for children (more than 300 pupils) with visual problems in Goris, however, there is no pediatric ophthalmologist in the whole marz.

According to the GMEIPO/AUA data, prevalence of **refraction pathologies among school age children** is approximately 15%. A few local NGOs in Armenia (Karageozian Foundation, UMCOR, UNICEF, JMF, World Vision, etc) are involved in mass screening campaigns in schools aimed at early detection of refraction pathologies in children and provision of eyeglasses. The head of Karageozian Foundation highlighted eye care related activities of the foundation in certain regions of Armenia. The Karageozian Foundation conducts regular eye screening for school age children and plans to repeat screenings at the same schools every 4 years.

The workshop participants expressed a particular concern that there is no policy related to the screening of preschool and school age children. The NSP should indicate the age for obligatory screenings using internationally accepted guidelines.

All the workshop participants agreed that education of population is of great importance in order to fight problems related to refraction pathologies. It is suggested to develop educational programs for parents, train teachers on early detection of eye pathologies, and establish “eye hygiene” sessions in the schools.

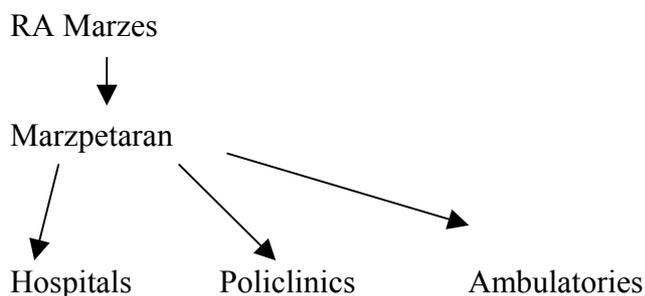
It was mentioned by the workshop participants, that another important cause of childhood blindness is Retinopathy of prematurity (ROP). The number of prematurely born babies who survive is increasing in Armenia. Although the exact numbers are not available for Armenia, but in Russia the rate of ROP is increasing dramatically. At present, there are no ophthalmic consultants at neonatal units, a child is diagnosed only after parents notice symptoms of blindness. No standardized screening procedures, laser equipment, and specialists on ROP exist in the country.

The issue of special education for visually impaired children was discussed. The workshop participants suggested the need of establishing a special kindergarten for those children and schools or special classes in the ordinary schools. Currently, there is only one such school for children with visual problems in Armenia, where only a small percentage of pupils are those

with low vision, others are from impoverished families. This school gives them opportunity to get not only education, but food and cloths.

Overall, 225 blind children are registered in the country, but based on the international statistics a much higher number should be expected. Three ministries deal with issues regarding those children: the MOH, Ministry of Education and Science, and Ministry of Social Welfare. All the workshop participants highlighted the lack of coordination between the Ministries and other bureaucratic difficulties. A recommendation was made to introduce a unit/body that would coordinate the efforts of these different ministries involved, preferably set up at the MOH.

The workshop participants extensively discussed the **infrastructure of eye care** in Yerevan and in marzes and financing mechanisms of eye care.



In marzes the MOH is responsible for the supervision of implementation of licensing requirements and terms and supervision of the BBP (“Pet. Patver”) implementation .

Primary level of eye care is presented by family physicians and nurses. Although the majority of them are provided with necessary equipment, they are strictly limited in their activities. The provider of family medicine are only involved in the preliminary diagnosis of the disease and then, they have to refer the patient to an ophthalmologist. One of the participants, personally involved in the development of eye care curricula for family physicians and nurses, commented that the training is limited to a few days for nurses, and 2 weeks for physicians, which is not enough for a satisfactory task- oriented training on primary eye care.

Ophthalmologists in the policlinics form the next component of primary eye care. The Ministry representative reported that the number of ophthalmic offices in policlinics in Yerevan is 40 and there is at least one policlinic ophthalmologist in each marz. In average, 1 ophthalmologist serves 50.000 population. One of the main problems was the lack of motivation for newly graduated ophthalmologists to work on the policlinic level in marzes. Participants suggested that there was a need for developing incentive mechanisms to attract the specialists to marzes.

Except the newly established ophthalmic unit in Sevan, the majority of regional ophthalmic units, which provide secondary level of eye care, are in a very poor situation,. All participants agreed that reinvigorating of the secondary level of eye care should be one of the most important objectives of the NSP.

Three eye hospitals and two private eye care units in Yerevan provide tertiary level eye care . The participants concluded that overall, this level of eye care has satisfactory quality and good specialists.

Also, the participants discussed the responsibilities and tasks for personnel involved in eye care at different levels, including village nurses, family nurses and physicians, polyclinic based ophthalmologists, hospital based ophthalmologists, and ophthalmic surgeons. The WHO Consultant suggested adopting a system of primary eye care that is internationally accepted and includes the following activities: Promotion (health education, consultancy); Clinical function (identifying cases, treatment, referral, follow-up, following doctors prescription, postoperative care based on doctor's recommendations); and Administrative tasks. Workshop participants had no objections to this scheme.

The role of coordination and referral system between the primary, secondary and tertiary levels of eye care was emphasized. The International Consultants concluded that, the overall structure of eye care in Armenia is favorable (specialists, services and etc.) but there is a significant lack of material sources and public education. They suggested that the main attention must be paid to the primary and secondary eye care.

Currently, eye care services are paid through the fee for service mechanism and the MOH covers all the cases within the BBP. There is no social insurance system in the country yet. Requirements for free of charge examination/treatment are different, e.g. children under 1 year, socially vulnerable people (38 points) and etc. Starting from 2006 year, the eye examination in polyclinics will be fully covered by the government (free of charge for the public). The MOH suggests limiting the number of eye clinics receiving governmental support to introduce competition for patients within BBP and increase efficiency. It is also very important to provide money to fewer organizations/institutions, because when money is distributed to many different organizations/places its amount decreases and many parts/organizations receive quite little sums, not enough for buying necessary equipment, supplies, etc.

The workshop discussed the available information on **ophthalmic education** in the country. . The Workshop participants admitted that human resources are the most expensive component of health systems and the optimal utilization of those resources is critical. They emphasized the importance of the task-oriented training. The need for improving the ophthalmic residency program was extensively discussed, particularly the practical part of the training. The majority of participants agreed that the current residency program does not prepare ophthalmic surgeons it only prepares ophthalmologists. The participants emphasized the importance of strengthening surgical training in Armenia, e.g. establishing a wet lab at the NIH Ophthalmic Department, involving the mobile eye unit and Lions Regional Ophthalmic Unit in Sevan as sites for the residency program.

Participants expressed concerns that the Continuing Medical Education is delivered exclusively by the NIH. The clinical aspects of ophthalmology are of the main focus of those courses. GMEIPO/AUA representatives provided information to the Workshop participants about a new 2-week course Introduction to Public Health Ophthalmology for eye care professionals developed by the GMEIPO. The course aims to equip students with knowledge to develop a community eye care program, including eye care program planning, management and evaluation. It covers also the following topics: basics of epidemiology of eye diseases, health systems, and core concepts of eye care- quality, sustainability, outreach. Participants agreed that it is very important to equip clinical specialists/ophthalmologists with basic knowledge of public health/public health ophthalmology. They also discussed the necessity to strengthen the capacity of the NIH (for better continuing education) via collaboration with

different academic institutions, especially in developing training curricula, and inviting visiting faculty to teach short-term courses.

For mid level eye care personnel there is a 5-week refresher course at the NIH. The participants expressed concerns that there is no specialization course for ophthalmic nurses, for optometrists, and opticians. There is no information about quality of optometric services as well, and no licensing system is in place. The workshop participants suggested to reestablish licensing and accreditation of ophthalmic personnel and introduce licensing of medical-optical facilities. They emphasized the need for developing courses for mid level eye care personnel. The WHO consultant suggested the following models for ophthalmic nurses:

Model 1 – 6 months specialization training, which includes 3 month theoretical and 3 months practical components.

Model 2 – basic nursing training followed by in-hospital specialization. Nurses gain not only practical skills, but also theoretical knowledge (2 hour lectures each day). In-hospital training is formal and the MOH gives a certificate.

The participants discussed the issue of **Quality Assurance** in eye care. The results of RACSS survey revealed that 22.9% of all operated eyes had poor and borderline visual outcomes (WHO definition) among the survey participants. The very high rate of poor and borderline visual outcome, predominantly as a result of surgery-related causes, suggests that more attention should be paid to the visual outcome of cataract surgery and other indicators of quality of eye care. The MOH representative informed participants that in 2002 the Government adopted a formal concept of quality assurance, but there are no formally accepted standards and indicators to measure the quality. In addition, the MOH participants reported that for the last 4 years there is no licensing of medical professionals: the previous mechanism is stopped and the new one is still in preparation. The WHO Consultant suggested to adopt easy and very useful tests for quality assurance developed in other countries.

One of the important objectives of the workshop was to review current **eye care activities** in Armenia. The Armenian health structure and health policy related to eye care, government and NGOs activities in the field were discussed. Representatives of Karageozian Foundation and Jinishian Memorial Fund presented interesting information about their activities. All participants admitted that there is no coordination between different organizations interested in eye care; in some places there is a duplication of efforts, while in other places there is a lack/gap of services. Some of the participants emphasized the need for a standardized reporting form for NGOs.

At the end of the workshop, the participants with support from the WHO consultant formulated the Goal of the NSP for Armenia: **To eliminate avoidable blindness and severe visual impairments in Armenia before 2020**. The targets, priority areas and strategies for the NSP were briefly outlined.

The concluding part of the workshop was devoted to exploring ways and means of **Mobilising resources** for the five-year plan. All workshop participants emphasized the need for increasing efficiency of using the existing resources through strengthening capacity of existing facilities and human resources and importing high quality/reasonable price equipment and supplies to Armenia.

Statistical data show the uneven distribution of eye care in the country: rural vs urban, poor vs reach, male vs female. There is an emerging need to redistribute the existing governmental resources to reach equality and distributional efficiency of eye care.

The WHO Consultant discussed the importance of advocacy efforts to raise more resources. One of possible strategies could be finding local rich people to sponsor eye programs, raising/attracting community resources (could be human resources).

The importance of collaboration and continuous efforts of all key stakeholders was emphasized. On the international level resources are easier to obtain when there is a collaboration/cooperation between all interested parties.

The international experts emphasized that a National Strategic Plan to achieve Vision 2020 targets in Armenia approved by the government will help to attract funding from INGDOs involved in prevention of blindness world wide.

The WHO Consultant made closing remarks to the Workshop participants, explaining that the main efforts should be placed to help particularly poor people. He pointed out that prevention of blindness is also an important component of elimination of poverty. Blind people and people with low vision are more vulnerable. Usually poor people go blind more frequently, and they become poorer after they go blind. Consequently, one of the main objective of the prevention of blindness worldwide is to break the “poor-blind-more poor” cycle.

Conclusion

Overall, the Workshop reached its specific aims. Moreover, it provided an opportunity to the leading specialists and the majority of key stakeholders to express their opinion on the concerning issues of eye care and contribute to the process of NSP development.

During the next 3 months (July- September 2005) the MOH with technical support of the GMEIPO/AUA will prepare a draft version of the NSP. It will accumulate the comments and suggestions of the workshop participants, as well as guidelines from the WHO PBL Consultant and representatives of the blindness prevention INGDO. By the end of September a draft version of the NSP will be presented for the review by all other Ministries, governmental and non-governmental health organizations, and general public. After receiving their feedback, both English and Armenian versions of the NSP will be finalized and presented for approval of the government of Armenia.

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The organizers express their appreciation to all workshop participants for their active participation and contributions.

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Appendix I. Eye care statistics (Year 2002)

Statistical data	Yerevan	Regions/Marzes					
		Syunik Marz			Shirak Marz Gyumri town	Armavir Marz Echmiadzin town	Lori Marz Vanadzor town
		Goris	Kapan				
			Eye Dep.	Eye Clinic			
Number of ophthalmic surgeons	65	On residency training	1	1	2	1	3
Yearly number of cataract surgeries	3083	*	18	99	90	18	30
Methods of cataract surgeries	Extra capsular cataract extraction (ECCE) with IOL, phacoemulsification	ECCE with IOL	ECCE with IOL (2)	ECCE with IOL (exact rate of IOL is NA)	ECCE	ECCE with IOL (3)	ECCE
Yearly number of glaucoma surgeries	485	Not Available (NA)	NA	5	19	NA	3
Methods of glaucoma surgeries	Sinustrabeculectomia (ST), trabeculotomy			NA	ST		ST
Yearly number of diabetic retinopathy (DR) laser treatments		NA	NA		NA	NA	NA
Price for cataract surgery (USD)	135 **; 73***	NA	35	70	96	70	104
Price for glaucoma surgery (USD)	104 **; 73 ***				96		87
Price for DR laser treatment (USD)	174**						

APPENDIX II

Workshop Participants

Dr. Ruzanna Yuzbashyan	MOH
Dr. Alla Hovhannisyan	8th eye clinic
Dr. Astghik Sargsyan	Ped. Ophth. Center after Mari Nubar
Dr. Lilith Kirakosyan	GMEIPO/AUA
Dr. Pararajasegaram	WHO
Dr. Tatul Hakobyan	MOH
Prof. Haroutune Armenian	AUA
Prof. Armen Shakaryan	Ped. Ophth. Center after Mari Nubar
Dr. Kamo Ter-Petrosyan	Hovard Karageuzian Foundation
Dr. Naira Khachatryan	GMEIPO/AUA
Mr. Michael Hansmann	CBM
Dr. Armen Vardanyan	Republican Eye Hospital
Dr. Gevorg Baraghamyan	Sevan ROU, 8th eye clinic
Dr. Ovsanna Najaryan	GMEIPO/AUA
Dr. Knar Ghonyan	MOH
Prof. Levon Barsegyan	8th eye clinic
Dr. Varsik Hakobyan	GMEIPO/AUA
Dr. Hasmik Gharibjanyan	Ped. Ophth. Center after Mari Nubar
Dr. Varduhi Petrosyan	GMEIPO/AUA
Dr. Sona Sedrakyan	Vagharshapat Policlinic
Dr. Marianna Shakhsuvaryan	Republican Eye Hospital

Present during the Opening Ceremony

Dr. Norair Davtyan	MOH
Dr. Haik Darbinyan	MOH
Dr. Vahan Poghosyan	MOH
Prof. Alexandr Malayan	Republican Eye Hospital
Ms. Nune Eghiazaryan	AECP
Dr. Anna Hovakimyan	Republican Eye Hospital
Dr. Lilith Voskanyan	Republican Eye Hospital

Appendix III. Eye care capacity (Year 2003)

Statistical data	Regions/Marzes					
	<u>Syunik Marz</u>			<u>Shirak Marz</u>	<u>Armavir Marz</u>	<u>Lori Marz</u>
	<i>Goris</i> <i>Supported by IAPB</i> <i>Europe, Dr. M.</i> <i>Chovet</i>	<i>Kapan</i>		<i>Gyumri town</i>	<i>Echmiadzin town</i>	<i>Vanadzor town</i>
		<i>Eye department</i>	<i>Eye Clinic supported</i> <i>by Medical Ministry</i> <i>International</i>			
Main equipment	OM [*] , SL ^{**} , OP ^{***} , SI ^{****}	Loupe, Perimeter, OP, SI, SL	NA ^{*****}	SF ^{*****} , OM, SL, SI, OP	OM, SL, OP, SI	OM, SL (2), OP (2), SI, SF, gonioskope, termokoagulator
Condition of equipment	New	Satisfactory	NA	Satisfactory	Satisfactory	Old models, bad condition, OM and 1 OP are not in use
Number of beds in hospitals for eye care	8	8	0	8	15-20	22
Number of operating microscopes	1	0	1	1	1	1
Occupied space	100m ²	600 m ²	NA	72 m ²	150m ²	128 m ²
Space condition	New	New	New	Recently renovated	Recently renovated	Needs total renovation
Training	<u>1 doctor</u> 1. In Residency training	<u>1 doctor</u> 1. Internship - 1 year	<u>1 doctor</u> 1. Internship - 1 year Residency - 2 years	<u>2 doctors</u> 1. Specialization -1year 2. Specialization - 6 months	<u>1 doctor</u> Specialization - 6 months Residency – 2 years	<u>3 doctors</u> 1. Specialization 6 months 2. Internship - 1 year 3. Residency - 3 years

¹ * Operating microscope

² ** Slit lamp

³ *** Ophthalmoscope

⁴ **** Surgical instruments for cataract

⁵ ***** Not Available

⁶ ***** Sferoperimetr