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MID-TERM EVALUATION  
PROGRAM FOR PREVENTION OF BLINDNESS AND  
PUBLIC EYE HEALTH IN BULGARIA

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## **EXECUTIVE SUMMARY**

This innovative and important project was undertaken in a former communist nation to establish a comprehensive out-patient and surgical eye care facility using a United States model, to obtain baseline data on the prevalence of ocular disease and blindness, and to prepare a strategy for reducing blindness in the country. Such a facility, the Center for Sight, has been established, and the survey has been completed. It is imperative at this time to concentrate on further development of the public health aspect of the program.

Bulgaria has been described as being in a state of quasi-anarchy in its effort to establish a democratic government and a free market economy. This political turmoil and that between the Director of the Center for Sight and one academic Chair of Ophthalmology in the country have hampered the development of this program.

We would like to express our sincerest gratitude to the Minister of Public Health of Bulgaria, Dr. Tancho Gugalov, and the many Bulgarian ophthalmologists, public health specialists, and other physicians, who gave so generously of their time in allowing us to interview them. The quality of this evaluation would have been severely compromised without their gracious cooperation.

We are also grateful for the able assistance of Ms. Victor M. Sheffield, Executive Director, International Eye Foundation; Bethesda, Maryland, Mr. Gerald Zarr, Representative, U. S. Agency for International Development, Bulgaria; and Dr. Sheila West, Dana Center for Preventive Ophthalmology, Johns Hopkins University, Baltimore, Maryland.

## I. BACKGROUND

### A. THE HOST COUNTRY

Bulgaria is a nation of approximately, 8,974,900 inhabitants (1). It has an area of 44,365 square miles, and hence, it is about the size of Ohio (2). It is bordered by the Black Sea to the east, Romania to the north, Yugoslavia to the west, and Turkey and Greece to the south. The per capita GNP in 1989 was U. S. \$5,660, although this has almost certainly declined in recent years. We were assured that the GDP decreased by 20% in 1992 (3). Inflation was almost 80% during 1992, and unemployment was approximately 12%. Previously productive farms have been dismantled with a precipitous drop in agricultural production. Crime has increased sharply as police powers have been reduced and the morale of the army and police force has declined.

The communists took power with Soviet aid in 1946, and the monarchy was abolished. Todor Zhivkov, who had held power for 35 years, resigned in November 1989. The parliament revoked the provision in the constitution that

guaranteed the dominant role of the Communist Party in January 1990 (2). As noted earlier, the country is currently undergoing considerable political and economic turmoil during its attempts to establish a stable, democratic form of government and a free market economy.

This socioeconomic turmoil is reflected in the latest demographic data for Bulgaria. The crude death rate, 12.3, exceeded the crude birth rate, 10.7, in 1991, which resulted in a negative rate of natural growth of 1.6 percent (2). Similar conditions prevailed in 1990.

Infant mortality in 1991 was 16.9 per 1,000 live births, which represents an increase of 14% over that of 1990, 14.8 (2). About 46 percent of all infant deaths occurred in the postneonatal period.

During the communist era, Bulgaria realized modest progress in the field of medical science, and providing medical care for foreigners was the source of considerable foreign exchange. Ophthalmologic equipment, medications, and supplies were obtained from the former German Democratic Republic. Surgical techniques in ophthalmology were similar to those used in the west some 10 to 15 years ago. There was however a technical revolution in ophthalmology abroad during that period, one marked by the introduction of new surgical techniques that have markedly improved visual outcome with fewer complications. The nations of eastern Europe had little exposure to these new developments and little or no access to the medical literature of the west. The collapse of the German Democratic Republic has resulted in the loss of a source of supply of ophthalmological equipment and supplies for Bulgaria.

#### B. THE PROGRAM FOR PREVENTION OF BLINDNESS AND PUBLIC EYE HEALTH IN BULGARIA.

The International Eye Foundation (IEF), 7801 Norfolk Avenue, Bethesda, Maryland, responded to a request for proposals issued by the U. S. Agency for

International Development (AID) on November 20, 1990, and IEF received a grant of \$525 thousand for a three-year period from AID on January 12, 1991 to establish a Center for Sight within the old Institute for the Treatment of Foreign Citizens to serve the people of Bulgaria (4). The Center was established in conjunction with the Ministry of Health, the Medical Academy, and the University of Bulgaria.

Unhappily, the creation of the Center for Sight as it was constituted within the former Institute for the Treatment of Foreign Citizens was immediately opposed by Professor P. Gugutchkova, Chair of Ophthalmology of the Medical Faculty Sofia, and her colleague and former Chair, Professor V. Tanev.

At the time this grant was awarded to IEF, Professor Petja Ivanova Vassileva, a Bulgarian ophthalmologist, was completing an M. P. H. degree in preventive ophthalmology at the Johns Hopkins University School of Hygiene and Public Health. She was subsequently appointed the Director of the Center for Sight and the Program for Prevention of Blindness and Public Eye Health in Bulgaria.

The goal of the program was stated as follows: **"To reduce the prevalence of blindness and sight impairing disease in Bulgaria by raising the level of eye care services to internationally recognized standards through the establishment of an ophthalmic infrastructure capable of providing all Bulgarians access to adequate and appropriate care (5)."**

## II. METHODOLOGY

This evaluation was conducted by the review of relevant documents and by interviews. Document reviews were conducted in Washington, D. C., Bethesda, Md., and Sofia, Bulgaria. The principle source of information however was interviews, particularly those conducted in Bulgaria. A list of those individuals

interviewed is attached as Appendix A. It should be noted that while we made every effort to interview Professor P. Gugutchkova, Chair of Ophthalmology, Medical Faculty Sofia, we were unable to do so.

### III. FINDINGS

It was quite clear that the Program for the Prevention of Blindness and Public Eye Health in Bulgaria has thus far not succeeded in reducing "the prevalence of blindness and sight impairing disease," the stated goal of the program. This is not a criticism of the program but rather of the excessively ambitious statement of the goal. The Center can serve as a tertiary referral center for the entire country, however given its limited size, it simply cannot "provide all Bulgarians access to . . . care."

The project objectives will be considered in turn:

**1. Establish a Center for Sight in Sofia within the old Institute for the Treatment of Foreign Citizens. This center will provide a full range of ophthalmic services for the people of Sofia District, and will serve as a tertiary referral center for people throughout the country.**

The Center for Sight has been established within the old Institute for the Treatment of Foreign Citizens, now the Mladost University Hospital. It consists of an administrative office, an office for the Director, and a superbly equipped examination room. The staff consists of the Director, Professor Petja Vassileva; the Administrative Officer, Dr. Krassimir Kushev; a secretary; and a driver.

The administrative office is equipped with desks, a word processor, telephones, a fax machine, and a photocopier. The car and driver are used primarily for the convenience of the Director.

The outpatient examining room contains the following equipment: a projector, a slit lamp with tonometer, a photo slit lamp, a keratometer, a fundus camera, an examination chair, an equipment stand, an auto refractor, a

computerized visual field machine, an A scan, and miscellaneous medications. This equipment is not integrated into the hospital examining routine. It is not used by the other two senior ophthalmologists on the staff of the Mladost University Hospital. It is used by the junior staff members primarily when the Director, Dr. Vassileva, is present.

If this equipment should be damaged there is no assurance of prompt repair, and there is always the risk of theft. Use of the equipment only when the Director is present minimizes the risk of damage and theft, and hence, the practice can be regarded as appropriate and useful.

The operating room of the Mladost University Hospital is equipped with a coaxial microscope, an endolaser, a vitrectomy machine, three indirect ophthalmoscopes, a cryotherapy machine, a diathermy, explants, and encircling elements. This equipment is used by all the staff. This practice may have resulted in the breakage of one vitrectomy hand piece and the theft of another (6). The vitrectomy machine is currently inoperative.

It is apparent that the Center for Sight does not at this time have a firm institutional base. It is physically present in the Mladost University Hospital, but it is not an integral part of it. No doubt, it appeared to have had such a base when the Center was established since the creation of the Center was approved by the Ministry of Health, the Medical Academy, and the University of Bulgaria. It is worth noting that there have been three Ministers of Health in Bulgaria since the Center was created.

The number of Bulgarian citizens receiving surgical treatment for eye disorders has increased dramatically since the Center for Sight was established as is shown in the accompanying tables (7).

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Clinic Patients

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May-Sept 91   Oct-Dec 91   Jan-Mar 92   Apr-June 92

|            |     |     |     |      |
|------------|-----|-----|-----|------|
| Foreigners | 94  | 49  | 51  | 91   |
| Bulgarians | 468 | 368 | 820 | 1286 |
| Totals     | 562 | 417 | 871 | 1377 |

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**Surgical Operations**

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|            | May-Sep 91 | Oct-Dec 91 | Jan-Mar 92 | Apr-Jun 92 |
|------------|------------|------------|------------|------------|
| Foreigners | 79         | 66         | 42         | 32         |
| Bulgarians | 37         | 80         | 208        | 277        |
| Totals     | 116        | 146        | 250        | 309        |

It is not clear if this increase is due largely to the provision of surgical care on the part of the Director of the Center for Sight, to the provision of such care on the part of other members of the Eye Department of Mladost University, or both. The latter seems more likely.

**2. To upgrade the Ophthalmology Residency Training Program through a Visiting Professor Program providing six experts per year to the center.**

Six highly qualified ophthalmologists have visited Bulgaria through this program. Four were specialists in vitreoretinal disease, one in plastic surgery, and one in glaucoma. All but one have lectured at other sites in the country, and they have been well received by graduate ophthalmologists.

There is no clearly defined ophthalmology residency program in Bulgaria (8). There are however young graduate physicians who are receiving training in ophthalmology, including six such trainees in the Mladost University Hospital. It is difficult to assess how useful the highly technical information imparted by the visiting professors was to these young doctors

The concentration on vitreoretinal disease has increased the demand for sophisticated equipment as well as for indirect ophthalmoscopy. Lectures on this



subject are irrelevant to most practicing ophthalmologists since the only endolaser in the country is that donated by IEF. Lectures on appropriate surgical management of cataracts would probably have been more useful for those ophthalmologists who have had minimal exposure to western medical concepts.

The visiting professor part of the program has added to the political problems of the Center for Sight over the issue of who was to host them. It appears that Professor Gugutchkova was unwilling to share sponsorship as proposed by the Director of the Center for Sight. Professor Vassilva elected to have the lectures to be given in the limited space available at Mladost University Hospital. Holding the lectures in another venue might have reached a larger audience, but this is by no means certain. Those ophthalmologists working in the same institution with Professor Gugutchkova probably would not have attended for fear of evoking her displeasure.

**3. To improve the technology, equipment, and medical supplies for the Center for Sight.**

This objective has certainly been achieved. The equipment and supplies provided have greatly enhanced the clinical ability of Mladost University Hospital. The operating room of the latter has the only endolaser as well as the only functioning YAG laser in the country. The outpatient area has the only computerized visual acuity machine. There is a good supply of intraocular lenses and topical medications, which are lacking in other similar departments.

**4. To conduct a basic blindness prevalence survey in Sofia District to gather baseline data on the leading causes of blindness in the area.**

A survey based on a probability sample of the adult population of Sofia District has been conducted, and such a survey is scheduled to be conducted in the city of Sofia. IEF showed great flexibility and resourcefulness in obtaining assistance from the Dana Center for Preventive Ophthalmology, Johns Hopkins

University, when it became apparent that outside help would be necessary. Dr. Sheila West played a crucial role in establishing the sampling frame, selecting the sample, designing and testing a manual for field operations, and designing the forms used for individual respondents (9). The physician teams were carefully trained, and excellent equipment was provided for the physician-examiners.

The field support provided by Dr. Krassimir Kushev was exemplary, and Professor Vassileva ably assisted in the conduct of the survey. Associate Professor Tanya Cholakova and her colleagues at the National Center for Health Informatics, Sofia, have done a masterful job of preparing the raw data for computerized analysis in Baltimore.

The participation of Johns Hopkins University personnel in conducting this survey will almost certainly render the findings immune to criticisms regarding sample size and methodology, validity of the findings, and other similar questions that so frequently plague similar studies. Although the survey was limited to the western part of the country, it will prove invaluable to planning for unmet needs to restore vision in that heavily populated area, and it can serve as an example for surveys to be conducted in the future in other parts of the country.

**4. To establish a National Blindness Prevention Committee according to World Health Organization guidelines with the goal of developing a public health oriented National Blindness Prevention Program for the country.**

The *raison d'etre* for a prevention of blindness committee appears to be poorly understood. Simply stated, it itemizes needs as derived from projections of the survey data, and it determines and mobilizes resources from the government, the private sector, physicians, and non-physician community leaders. Unhappily, the concept has been derided by some Bulgarians as only appropriate for "developing countries."

This IEF project is directed toward the prevention of blindness. A large portion of the grant however was used to build a strong clinical facility. This was felt to be essential by some ophthalmologists with whom we spoke, for it provided credibility to the Director (3).

Nonetheless, it was rather disappointing to hear nothing of plans for projecting the number of cataract procedures from the survey data, the number of patients with diabetic retinopathy in need of care, etc., in short, no specific plans to make use of the data when it becomes available.

We did speak with some individuals, particularly Associate Professor Philipov, who had an in-depth understanding of the need for and the role of a National Prevention of Blindness Committee (10, 11). The on-going political struggle between Professor Gugutchkova and Professor Vassileva appears to have made some important figures in Bulgarian ophthalmology reluctant to publicly support the concept.

If the creation of a National Prevention of Blindness Committee is not feasible, it would be very useful to assess the resources available in Sofia District, i. e., ophthalmologist with surgical training, suture material, etc. Dr. Kushev could almost certainly do this if directed to undertake such a study.

**5. Facilitate the process for the Center for Sight to apply to become an official WHO Collaborating Center.**

This is not feasible at the present time, but the Center for Sight well might be in a position to apply to become such a Center in the future.

#### **IV. Issues.**

##### **1. Review strategy, program, and management activities.**

a. The statement of the needs for ophthalmology in Bulgaria were appropriate.

b. The objectives were appropriate as well.

c. It is difficult to assess the appropriateness of the management structure and style of the Center, for we do not have a background in Bulgarian culture and social norms. The fact that the Center has accomplished so much since it was created suggests that management structure and style have indeed been appropriate.

d. The issue of the use of ophthalmologic equipment when the Director of the Center is away is addressed in Section III. 1.

e. What is the acceptability and relative priority of the program to the Government of Bulgaria? The question raises the issue of who speaks for the Government of Bulgaria in this regard. We have assumed it would be the Minister of Health. When we spoke with him, we felt he was not familiar with the project or at best had but minimal familiarity with it (12). He did however promise his support.

It is worth noting that the project did enjoy the support of the President of the Medical Academy and the Dean of the Medical Faculty Sofia (3, 13).

## **2. Assess the strategies in order to determine the likelihood of reaching the objectives stated in the DIP.**

As noted earlier in this report, most of the objectives are being met, except that related to making the Center a WHO Collaborating Center.

## **3. Assess what has been achieved in terms of measurable inputs.**

The equipment, supplies, and visiting professors that have been provided are detailed in Sections III 1 and 2.

## **4. Assess what has been achieved in terms of measurable outputs.**

The training of ophthalmologists, the prevalence of blindness survey, and the National Blindness Prevention Committee are discussed in Sections III. 2, 3, and 4.

## **5. Assess appropriateness of inputs and outputs listed above.**

These issues are discussed in Section III.

**6. Identify the strengths and weaknesses which facilitate or inhibit the accomplishments of the IEF'S program activities.**

**a. Personnel**

The respect that Professor Vassileva enjoys on the part of many of her colleagues and other physicians in Bulgaria is an asset. The current clinical direction of the center reflects her long clinical training, and it must be recognized that her experience in the field of public health is limited to the training she received at Johns Hopkins University.

Dr. Krassimir Kushev's background in epidemiology and public health and his devotion to his work make him a very real strength for this program. This was exemplified by his performance during the field work of the prevalence of blindness survey.

**b. Infrastructure**

The equipment of the Center for Sight, including diagnostic ophthalmologic equipment, is a distinct strength.

**c. Political environment.**

This is a weakness. The political struggle between Professor Gugutchkova and Professor Vassileva has been an obstacle to the creation of a National Prevention of Blindness Committee. The lack of political stability at the national level and the economic uncertainty with regard to the future cannot help but adversely affect the implementation of a new program.

**7. Identify any obstacles, particularly those identified by the Grant proposal, which could prevent or have prevented the program from reaching its goal.**

The rivalry between Professors Gugutchkova and Professor Vassileva have been discussed early.

The lack of a well established, clearly defined residency program for training ophthalmologists is an obstacle to achieving one of the stated objectives of the program.

The lack of government personnel who are well trained in survey methodology, and especially sampling theory, is another obstacle. Additional surveys of blindness to cover the entire Bulgarian population would be extremely helpful in planning for the prevention of blindness. Foreign assistance will be needed however to carry this vital work further.

A modern library of current books and periodicals devoted to ophthalmology is absent, which is a detriment to the further development of ophthalmology in Bulgaria.

**8. Identify program areas, activities, and procedures which could benefit from fine-tuning.**

**9. Identify the steps the IEF might employ to ensure that all components are completed by the end of the Grant which is 30 April 1994.**

**10. Provide recommendations that are meaningful within the context of the present political, social, and economic environment with respect to the project's priorities as well as the effectiveness of the DIP.**

Theses issue will be addressed in a separate section, VI.  
Recommendations.

## **V. Key Questions**

**1. How do actual achievements compare with projections?**

They compare quite favorably as we pointed out in the section on objectives, Section III.

**2. Has the number of patients seen in both the eye clinic and surgery increased since the project began?**

Yes. See Section III. I.

**3. Has the number of patients needing sophisticated care utilizing the modern equipment and surgical techniques provided by the IEF's technology transfer and visiting professors increased?**

Yes. See Section III. 1.

**4. Do the ophthalmologists who have attended the lectures conducted by the visiting professors felt that these visits have been appropriate and useful?**

We were able to interview five senior ophthalmologists who had attended these lectures, and all of those were agreed that the visits were useful. One junior ophthalmologist also attended the lectures, and he felt the material presented may have been too complex to be useful for the young physicians training in ophthalmology. This question is also addressed in Section III. 2.

**5. Was the survey conducted according to plan?**

Yes. See Section III. 4.

**6. Will the survey be useful in planning for a National Blindness Prevention Program?**

The findings from this survey cannot be generalized to the entire adult population of Bulgaria. They will nonetheless be useful as discussed in Section III. 4.

**7. Are the current activities to encourage the establishment of a National Blindness Prevention Committee appropriate?**

We felt that Professor Vassileva had temporarily ceased her efforts to form such a committee in view of the intense opposition of Professor Gugutchkova and the resultant reluctance of some important ophthalmologists to publicly favor the formation of a committee. If so, her action was clearly understandable. Given the political changes that have occurred since we left Bulgaria, it would certainly be appropriate now to begin anew.

**8. Is the level of staffing of the Mladost University Hospital Eye Department and Center for Sight appropriate?**

No. There are three positions for ophthalmologists at the Eye Department which are currently unfilled.

**8. Should the Center for Sight change any of its directions given the current slow progress toward autonomous management and the lack of any fee for service or insurance schemes for health care in the country?**

The Center for Sight cannot be expected to have much influence on "progress toward autonomous management and the lack of fee for service or insurance schemes . . ." It is nonetheless providing high quality ophthalmological care to an increasing number of patients, and it should continue to do so.

**9. Has the program prepared its counterparts sufficiently so that they can assume the management of the program at the end of the Grant period?**

The Director of the program can readily assume the management of the clinical aspects of the program. Whether or not the Director can provide the leadership necessary for the preventive ophthalmology aspect of the program is another matter. In our judgment, IEF will have to intensify its efforts to implement the preventive ophthalmology program for the remaining life of the project if it is to prosper.

**10. What additional benefits have been accomplished by the project?**

The prevalence of blindness survey has provided a sampling frame for additional studies in other public health areas. The same areas selected for the survey can be re-surveyed for other epidemiological studies, and the investigators who undertake these studies can be assured that the sample is representative. Implementing the survey trained many individuals in techniques, which can be useful in future similar surveys in other parts of the country.



The visiting professor program almost assuredly created an interest in the visiting ophthalmologists in Bulgarian ophthalmology and also evoked their desire to be helpful to their Bulgarian counterparts in as far as they are able to do so in the future.

**11. Does this project provide a good foundation/infrastructure on which to build other ophthalmic activities? If not, why not?**

If the Center for Sight becomes genuinely integrated into the Mladost University Hospital structure and continues to enjoy the support of the Ministry of Health and the Medical Faculty Sofia, it will be a good foundation on which to build further ophthalmological activities.

**VI. RECOMMENDATIONS**

**1. The Center for Sight should give the highest possible priority to implementing the preventive ophthalmology aspect of its program.**

As quickly as the complete data for the Sofia District survey becomes available, the Center for Sight, ideally with assistance from the National Center for Health Informatics, should develop projections of the number of adults in the District who are blind from cataracts, the number with diabetic retinopathy, and hence, in need of care, etc. This would facilitate intelligent, long-term health care planning.

Efforts should be renewed to establish a National Blindness Prevention Committee. The Center for Sight should consider seeking leadership for this effort from the Minister of Health, the Dean of the Medical Faculty Sofia, or some other respected but relatively neutral figure in the political sense. If the formation of a National Blindness Prevention Committee does not appear feasible at this time (and it is worth noting that only Bulgarians can make such an assessment intelligently), the formation of a Sofia District Blindness Prevention Committee should be considered

**2. The Center for Sight and IEF should undertake a variety of activities to create a more favorable image.**

The Director for the Center for Sight should arrange to have the presentations of future visiting professors given at other institutions under the auspices of corresponding co-hosts. The Queen Joanna University Hospital should be considered as well as the Medical Faculty Sofia. Dean Smilov has already indicated his interest in such an arrangement.

If at all possible, the office space for the preventive ophthalmology/IEF program should be separated from Professor Vassileva's clinical examination area and her private office. The project vehicle and driver should be used strictly for project purposes, rather than for the personal transportation of Professor Vassileva.

The Center for Sight should consider establishing a small library of ophthalmological materials in the Mladost University Hospital for the use of all ophthalmologists in Sofia or even Bulgaria. IEF should consider sending a paid subscription of a highly respected American ophthalmology journal to each of the five Chairs of Ophthalmology as a gift from IEF and the Center for Sight.

**3. The Center for Sight may wish to consider taking a leadership role in establishing an eye bank in Sofia.**

There is interest on the part of an outstanding eye bank specialist in the United States in helping establish an eye bank in Bulgaria. There are Bulgarians who are trained in performing corneal transplants and do them on a limited basis. They are severely constrained in providing this much needed service by the lack of readily available corneas.

The Center should not devote its time and resources to this project until the survey, including the data analysis, is completed, projections of sight impairing disorders have been made for Sofia District, and a roster of available resources in the District for meeting the need has been established

**4. The Center for Sight may wish to consider working jointly with the ophthalmologists of the Medical Faculty Sofia to create a standardized, well defined residency program for the training of ophthalmologists.**

Such a program is greatly needed in Bulgaria, however creating a standardized residency program is a formidable undertaking. This recommendation should only be considered after the Center has implemented its preventive ophthalmology program.

**5. The Center for Sight and IEF provide visiting professors with backgrounds in those areas that are most relevant for the further professional development of practicing ophthalmologists in Bulgaria.**

As noted earlier, there is clearly a need for teaching state of the art surgical management of cataract. It is highly questionable if further teaching of vitreo-retinal disease management will be useful.

**6. IEF and the Agency for International Development should extend this project for an additional two years.**

An ultimate outcome of this program which is greatly to be desired is the creation of a viable, self-sustaining institution. We do not feel that the Center for Sight is likely to prove self-sustaining without further assistance. A great deal has been accomplished. The Center for Sight has conducted the only scientifically respectable prevalence of blindness survey in eastern Europe, and it has the potential of becoming a model for further AID assistance in this vitally important field embracing clinical medicine and disease prevention.

**7. Lastly, IEF should entrust its final evaluation of this program only to individuals who are already familiar with this program and ophthalmology in Bulgaria.**

Evaluation visits are necessarily short, and a great deal of time is lost if those undertaking an evaluation are entirely strange to the country setting and the

program being evaluated. Using consultants already familiar with both the setting and the program will result in a much more insightful and useful evaluation.

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8. Interview, Prof. Nikola Konstantinov, Head of Eye Department, Mladost University Hospital, Sofia, February 24, 1993.
9. Interview, Dr. Shiela West, Dana Center for Preventive Ophthalmology, Johns Hopkins University, Baltimore, Md., February 12, 1993.
10. Interview, Associate Professor Philipov, Chair of Ophthalmology, Stara Zagora Medical Institute, Sofia, February 25, 1993.
11. Interview, Professor Blaga Chilova-Atanasova, Chair of Ophthalmology, Plovdiv, Sofia, February 26, 1993.
12. Interview, Dr. Tancho Gugalov, Minister of Health, Sofia, February 23, 1993.
13. Interview, Professor Ivan Smilov, Dean, Medical Faculty Sofia, Sofia, February 24, 1993.

## APPENDIX A

### INDIVIDUALS INTERVIEWED

Mr. Gerald Zarr  
USAID Representative

Mr. Bozhil Kostov  
AID Program Specialist

Tancho Gugalov, M. D.  
Minister of Health

Dora Mircheva, M. D.  
WHO Liason Officer

Plamen Kenarov, M. D.  
Medical Director,  
University Hospital Queen Joanna

Mr. Radi Kabaivanov  
President  
International Health Foundation  
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Dimitar Ignatov, M. D.  
President,  
Union of Bulgarian Physicians

Stoyan Botev, M. D.  
Secretary-General,  
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Prof. Blaga Chilova-Atanasova  
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Prof. Tzvetan Markov  
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Assoc. Prof. Tenchev  
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Prof. Ivan Smilov  
Dean of the Medical Faculty Sofia

Krassimir Kushev, M. D.  
Executive Officer  
Center for Sight

Assoc. Prof. Phillipov

**Chair of Ophthalmology  
Medical Institute  
Stara Zagora**