

# Vision 2020 in Latin America

Ophthalmologists are overcoming several challenges to provide much-needed eye care to people in this region.

**BY RAINALD DUERKSEN, MD, AND VAN LANSINGH, MD, PhD**



I am delighted to have my friend from Paraguay, Rainald Duerksen, MD, present his views on eye care in Latin America. Dr. Duerksen is not only a superb clinical ophthalmologist, but, as the chairperson for the International Agency for the Prevention of Blindness for Latin America, he is also working to improve eye care throughout Central and South America. In this issue, he and his colleague, Van Lansingh, MD, PhD, share their clear vision of the current state of ophthalmology in South America and discuss what needs to be improved to provide quality eye care throughout Latin America.

—Geoffrey Tabin, MD, Section Editor

In 1999, the World Health Organization (WHO) and the International Agency for the Prevention of Blindness (IAPB) joined forces to address the global issues of blindness and visual impairment. The result was Vision 2020: The Right to Sight, an initiative to eliminate avoidable or preventable blindness by the year 2020.<sup>1</sup>

The program's efforts in Latin America are focused on improving primary eye care as well as developing surgical and other corrective treatments for cataract, low vision, refractive error, glaucoma, diabetic retinopathy, and childhood blindness (particularly retinopathy of prematurity [ROP]). Vision 2020's task is hindered by a lack of ophthalmologists in rural areas and the limited availability of ophthalmic data for formulating policies. The greatest barrier to treatment, however, is that many individuals in the affected areas cannot afford eye care. This article discusses how Vision 2020 is overcoming these obstacles to improve access to eye care in Latin America.

## INITIAL ORGANIZATION

Vision 2020 incorporated *Comite Nacional Vision 2020 Paraguay*, its first Latin American committee, in 2002. The initiative's goal is to organize and establish similar committees in 19 Latin American countries and

help organizers set priorities and coordinate resources. By 2006, Vision 2020 had overseen the development of committees in 15 countries and was working to put programs in place in Panama, El Salvador, Uruguay, and Bolivia by the end of 2007.

The committees established in Latin America by Vision 2020 include technical subcommittees that tackle specific ophthalmic problems such as glaucoma, low vision, cataract, diabetic retinopathy, refractive errors, and ROP (Figure 1). The condition occurs in



Figure 1. Physicians examine a premature baby for ROP as part of a Vision 2020 national screening program in Brazil.



**Figure 2.** A Rapid Assessment of Cataract Surgical Services survey in Paraguay identified these patients' need for eye care. This picture shows them waiting for follow-up evaluations 1 day postoperatively.

premature infants when abnormal blood vessels grow and spread through their retinas. These vessels often leak and cause retinal scarring and detachment. Risk factors include transfusion with blood from an adult and sepsis.

ROP-focused committees in Argentina, Brazil, Ecuador, Peru, Colombia, and Paraguay implement screening programs, disseminate information, obtain research grants and equipment for hospitals, and develop low-cost, high-quality lasers, often in conjunction with nongovernmental organizations such as Christoffel Blindenmission International (Bensheim, Germany) and Orbis International (New York, NY). An update issued during the First Latin American ROP Meeting in Lima, Peru, in November 2005 indicated that Vision 2020 was making substantial progress toward identifying and treating ROP with laser treatments and cryotherapy.<sup>2</sup>

The most important function of Vision 2020 committees in Latin America, however, is to persuade national governments to develop sustainable action plans for delivering eye care. Blinding disease is just one of several healthcare crises affecting individuals in Latin America and other developing countries, and therefore it must compete for limited financial resources with conditions such as diabetes, HIV, cancer, malaria, and tuberculosis, to name a few. Representatives from the WHO, the IAPB, and Vision 2020 meet regularly with national health departments to ensure that funding for

cataract surgery and other treatments goes beyond one-time deals or plans and instead is incorporated into the countries' annual healthcare budgets.

### GATHERING OPHTHALMIC DATA

The first step in developing sustainable access to eye care is to assess the scope of each country's current problems and needs. One of the best tools for this purpose is the WHO's Rapid Assessment of Cataract Surgical Services, which includes a methodology for conducting sampling surveys as well as detailed procedures that researchers can use to test vision and record data in the field.<sup>3</sup> Originally created to assess the prevalence of cataract in specific populations, this methodology has been used in Argentina,<sup>4</sup> Peru,<sup>5</sup> Paraguay,<sup>6</sup> and other countries to evaluate the impact of other blinding diseases on people 50 years of age and older (Figure 2). It is important to note, however, that the Rapid Assessment of Cataract Surgical Services is not intended to replace a detailed survey of the causes of blindness. Rather, it is a tool for identifying barriers that need to be overcome in order to plan effective eye care programs.

### IDENTIFYING BARRIERS

The first important barrier Vision 2020 must overcome to reduce blindness in Latin America is to make eye care more accessible to people who live in rural areas. Many of these individuals must travel great distances to urban centers to receive eye care or surgical treatment for ophthalmic conditions. The lack of proper local facilities is complicated by the concentration of ophthalmologists within urban areas. For example, the doctor-patient ratio in Paraguay is already very low (one ophthalmologist for 40,000 people), and 90% of the ophthalmologists practicing in this country live in or near the capital city of Asunción.<sup>6</sup>

In many cases, people with ocular problems do not seek help when care is available because they are afraid of surgery. The lack of education about eye care is seen most often in, but is not limited to, rural regions. Furthermore, people who seek help may be reluctant to return for additional treatment, because they received substandard service or experienced a poor outcome. Patients who are unhappy with their treatment are also likely to share their dissatisfaction with others, thus dissuading those individuals from seeking medical care. Finally, many patients cannot afford eye care, especially if they need surgical treatment, such as for cataracts.

## FINDING SOLUTIONS

### Outreach Programs

To improve education and bring much-needed care to the underserved areas of Latin America, Vision 2020 has established various outreach programs through its partners. Periodically, teams of ophthalmologists and supporting staff members travel from central institutions to more remote regions, where they work in conjunction with local health facilities to perform mass eye screenings. Whenever possible, Vision 2020 also dispatches mobile screening and surgical units to these areas (Figure 3).

### Expanding Facilities

Programs in several Latin American countries are trying to increase rural residents' access to trained ophthalmologists by offering special incentives to surgical residents and other trained professionals who are willing to spend at least 1 year practicing in nonurban settings. Other programs such as the Fundacion Vision in Paraguay has trebled the number of patients seen in this country every year by establishing a satellite clinic near a major highway that connects Asunción with other major cities. The clinic is staffed by former residents and fellows. This initiative has also increased the number of cataract operations performed per year by at least 50%.

A longer-term solution that might enhance ophthalmologists' ability to offer quality care would be to establish eye care centers in rural areas. According to a heuristic study of cataract services at a public university

hospital in Brazil, hiring more staff members, reorganizing patient flow, and changing procedures increased the number of screenings by 25% and the volume of cataract surgeries by 40%.<sup>7</sup>

### Increasing Cooperation

Although it has not been officially adopted in Latin America, the International Centre for Rural Eye Care model (originally developed by the L. V. Prasad Eye Institute in Andhra Pradesh, India) may play a role in improving eye care in this area.<sup>8</sup> This program seeks to better define the roles and responsibilities of staff members by promoting a team approach. At the institutional level, ophthalmologists can reduce the cost of providing specialized treatment by sharing equipment such as phaco machines or Nd:YAG lasers or by cooperating to buy supplies in bulk. Since 2003, some South American countries have benefited from the Hong Kong-based Low Vision Resource Centre, which serves as a purchasing clearinghouse for low-vision devices.

### School-Based Initiatives

In addition, Vision 2020 collaborates with local schools to set up screening programs. The cost effectiveness of such programs, however, is still the subject of considerable debate<sup>9</sup> due to a lack of hard evidence.

Pilot projects in Brazil, Colombia, and Paraguay<sup>7</sup> have ensured that individual children receive vision correction, but it will be 4 or 5 years before enough data are available to gauge these programs' effect on overall educational efficiency.<sup>10</sup>



Figure 3. Dr. Duerksen (back row, left) poses with healthcare providers, volunteers, and patients who participated in a surgical campaign in a remote area of Paraguay.

### Securing Financial Support

The most difficult obstacle to implementing Vision 2020 programs in Latin America is deciding who will pay for eye care services. Private donors and non-governmental organizations can cover some of the costs of setting up eye care centers and training ophthalmologists and support staff. For example, the Orbis flying hospital and workshops sponsored by the International Centre for Eye Health (London, UK) have improved the level of training received by ophthalmologists in Latin America. External financial assistance can only do so much, however.

An alternative is to create a tiered pricing structure like those commonly used in India.<sup>11</sup> This approach maximizes the eye care provider's compen-

sation while taking into account the patient's income. Because the richest patients can afford to pay more for eye care, their contributions essentially subsidize the poorer patients' care. Institutions can use the money they collect for other ophthalmic services, such as the provision of spectacles and elective laser surgery, to defray the cost of poorer patients' eye care. Such measures are currently in place in Paraguay.

## CONCLUSION

Vision 2020 has made much progress in Latin America over the past 5 years by providing eye care services, establishing screening programs for refractive error, and improving patients' access to cataract surgery. The key to expanding these successes is establishing self-sustaining programs. Aging populations and other healthcare issues will likely impose challenges for the future, but the goal of preventing avoidable blindness in Latin America by 2020 appears to be in our sight. ■

*Rainald Duerksen, MD, is General Director of Fundacion Vision in Asunción, Paraguay, and Chairperson for IAPB Latin America Fundacion Vision. He may be reached at +1 595 21 607 240; rd@conexion.com.py.*



*Van Lansingh, MD, PhD, is an academic and research advisor for Fundacion Vision in Asunción, Paraguay, and the regional coordinator for Vision 2020 Latin America. He may be reached at +1 595 21 602 139; vlansingh@v2020la.org.*



1. Pizzarello L, Abiose A, Flytche, et al. Vision 2020: the Right to Sight. *Arch Ophthalmol*. 2004;122:615-620.
2. Vision 2020 Web site. Vision 2020 Latin American Report August- December 2005. Available at <http://www.v2020la.org/english/docs/VISION%202020%20LATIN%20AMERICA%20Report%20August%20-%20December%202005.pdf>. Accessed March 30, 2007.
3. World Health Organization. Rapid assessment of cataract surgical services. Geneva, Switzerland. Available at: [http://www.who.int/ncd/vision2020\\_actionplan/documents/racss/installation\\_racss.htm](http://www.who.int/ncd/vision2020_actionplan/documents/racss/installation_racss.htm). Accessed March 18, 2007.
4. Nano ME, Nano HD, Mugica JM, et al. Rapid assessment of visual impairment due to cataract and cataract surgical services in urban Argentina. *Ophthalmic Epidemiol*. 2006;13:191-197.
5. Águila LP, Carrión R, Luna W, et al. Cataract blindness in people 50 years old or older in a semirural area of northern Peru. *Pan Am J Public Health*. 2005;17:387-393.
6. Duerksen R, Limburg H, Carron JE, Foster A. Cataract blindness in Paraguay—results of a national survey. *Ophthalmic Epidemiol*. 2003;10:349-357.
7. Arieta CEL, José NK, Filho DMC, Alves MR. Optimization of a university cataract-patient care service in Campinas, Brazil. *Ophthalmic Epidemiol*. 1999;6:113-123.
8. Shamanna BR, Nirmalan PK, Saravanan S. Roles and responsibilities in the secondary level eye care model. *Commun Eye Health J*. 2005;18:120-122.
9. Cano M. Establishing a Vision 2020 committee in Paraguay. *Commun Eye Health J*. 2005;18:124-125.
10. Powell C, Wedner S, Richardson, S. Screening for correctable visual acuity deficits in school age children and adolescents. *Cochrane Database of Syst Rev*. 2005;1:CD005023.
11. Yorston D. High-volume surgery in developing countries. *Eye*. 2005;19:1083-

CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com

CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com  
CRSToday.com

visit [www.crstoday.com](http://www.crstoday.com) for the current  
issue and complete archives

CRSToday.com  
CRSToday.com  
CRSToday.com