

# Delivering Eye Care in Jamaica

Bringing state-of-the-art ophthalmic technology to this Caribbean nation is a challenging but rewarding task.

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A study conducted by the Yale School of Public Health in 2000 found that Jamaica had 1.32 ophthalmologists for every 100,000 residents. Despite this reasonable ratio, the investigators found that approximately 43% of Jamaicans had never had an eye examination.<sup>1</sup> This statistic is alarming, considering the high rate of cataract and glaucoma observed in the poorest regions of the country.

Fortunately, some help is on the way. In conjunction with Cuba, Jamaica's Ministry of Health has recently embarked on a \$48 million endeavor to deliver ophthalmic care to the most impoverished regions of Jamaica. On a smaller scale, Jeffrey L. Zimm, MD, and his group are screening and treating patients in Kingston for cataracts, glaucoma, and other debilitating ocular diseases. Through a variety of avenues, ophthalmic care in Jamaica should improve significantly in the next few years. Ultimately, we hope the local ophthalmologists will be able to provide top-notch care to all of their citizens.

—Geoffrey Tabin, MD, Section Editor

For the past few years, the St. Pius X Catholic Church Medical Clinic has provided much needed medical, dental, and ophthalmic care to the impoverished residents of Kingston, Jamaica (Figure 1).

Every 3 to 4 months, the Jamaican Outreach Program (a service organization founded by the sister parishes of St. Pius X Catholic Church and St. John the Evangelist Catholic Church in Naples, Florida) sends a team of ophthalmologists, optometrists, technicians, nurses, assistants, and opticians to the ophthalmic clinic at the St. Pius X Catholic Church Medical Clinic. These missions are timed to establish and maintain a continuity of care at the modern facility. Through their efforts, volunteers from the Jamaican Outreach Program are bringing vital vision care to the underserved population of Kingston.

## STATE-OF-THE-ART FACILITIES

In May 2004, the Jamaican Outreach Program modernized the ophthalmic facility at the St. Pius X Catholic Church Medical Clinic. The facility now features two new, fully furnished examination lanes, an A-scan biometer, an autorefractor, a threshold visual field analyzer, a pachymeter, and other instruments that are necessary for the diagnosis and treatment of ocular pathologies. Most of



Figure 1. The St. Pius X Catholic Church Medical Clinic is located in one of the most impoverished regions of Jamaica.

the instruments were purchased for the clinic with funds raised by the Jamaican Outreach Program. A newly built optical dispensary provides patients with eyeglass frames and lenses (Figure 2). The dispensary sells eyeglasses for a nominal fee or provides them at no cost to patients who cannot afford to pay. Many of the frames are donated to the clinic by optical shops in Naples.

Currently, opticians can perform simple laboratory services such as grinding and mounting lenses in Kingston. More complex jobs are sent to laboratories in the United States, however, and the products are shipped back to Jamaica for dispensing.



Figure 2. The recently refurbished ophthalmic facility at the St. Pius X Catholic Church Medical Clinic contains most of the instrumentation needed to diagnose and treat ocular pathologies.

### CLINICAL STATISTICS

Over the past 4 years, one ophthalmologist and three optometrists (all board certified) have evaluated 607 Jamaican patients for refractive error and ocular pathologies such as cataract, pterygia, corneal dystrophy, age-related macular degeneration (AMD), diabetic retinopathy, and glaucoma (Figure 3).

Approximately 11% of the patients examined during this period underwent phacoemulsification for significant cataracts (opacities that affected their ability to function normally or reduced their BCVA to 20/50 or less), and 5% were found to have pterygia (conjunctival lesions extending more than 2 mm onto the cornea). All of these patients underwent surgery to correct these conditions in Jamaica.

The volunteers also identified four patients who had corneal scarring that was severe enough to warrant corneal transplantation. Because the volunteers do not have the equipment they need to perform fluorescein angiography, they instead diagnose AMD by looking for drusen and/or pigmentary maculopathies. Finally, patients were diagnosed with diabetes through self-identification ( $n = 4$ ) or by the presence of diabetic retinopathy on fundoscopic examination.

We are currently making arrangements to bring the patients who need corneal or retinal surgery to the United States, where they will receive the appropriate treatment free of charge.

### INCIDENCE OF GLAUCOMA

Of the 607 patients evaluated at the St. Pius X Catholic Church Medical Clinic's ophthalmic facility, approximately 9% were diagnosed with glaucoma, and 14% were identified as glaucoma suspects. Patients were considered to have glaucoma if their IOP measured more than 25 mm Hg with a Tono-Pen (Reichert



Figure 3. Volunteers evaluate a patient at the St. Pius X Catholic Church Medical Clinic's ophthalmic facility.

Ophthalmic Instruments, Depew, NY) or Goldmann appplanation tonometry, if their IOP was lower than 25 mm Hg but their cup-to-disc ratio was 0.5 or larger, or if finger-counting confrontational testing detected visual field defects. Anyone with a cup-to-disc ratio of 0.5 accompanied by an IOP lower than 25 mm Hg and no detectable visual field defects was considered a glaucoma suspect. Although the clinic is equipped with a threshold visual field analyzer, we do not use it routinely due to time constraints and a concern that patients do not understand the testing process well enough for it to yield meaningful results. Patients who meet the criteria for glaucoma are immediately started on donated topical medications and are asked to return to the clinic in 3 to 4 months for re-evaluation by the next team of volunteers. Those who have urgent problems are referred to local ophthalmologists for treatment.

The literature reports that individuals of African or African/Caribbean descent tend to have larger average cup-to-disc ratios than whites.<sup>2-5</sup> The finding that 23% of the patients evaluated at the St. Pius X Catholic Church Medical Clinic's ophthalmic facility had cup-to-disc ratios exceeding 0.5 supports the published data. It also underscores the importance of establishing widespread screening programs and improving access to extensive diagnostic testing (eg, repeat tonometry, automated perimetry, and nerve fiber layer analysis) in Jamaica.

In the meantime, treatment with topical agents may help patients preserve their remaining vision. Many of them have trouble adhering to therapy, however, especially when they run out of free samples or cannot afford to refill their prescriptions. We try to help patients by bringing large quantities of samples and donated glaucoma medications to the clinic every 3 to 4 months and educating them about the importance of using these drugs regularly.

## CLINICAL STRENGTHS AND WEAKNESSES

The ophthalmic facility at the St. Pius X Catholic Church Medical Clinic routinely provides free, safe, and cost-effective cataract surgery to the poor residents of Kingston. We now have access to modern diagnostic instruments and advanced, accurate phaco techniques that help us improve our patients' overall visual function. Postoperatively, most of our patients have good distance vision without eyeglasses, and they can easily perform near tasks with the help of over-the-counter reading glasses.

The St. Pius X Church Medical Clinic's ophthalmic facility currently is not equipped to provide cost-effective treatment for severe corneal pathologies that require transplantation, significant retinal diseases, or complicated glaucoma surgery. The small percentage of patients who need advanced care (approximately 1%) are instead transferred to qualified clinics in the United States.

## CONCLUSION

Our experience as volunteers for the Jamaican Outreach Program has been extremely gratifying. The organization continually strives to improve its ocular and medical services by targeting consistency of care, increasing screening for cataracts and glaucoma, enhancing rates of follow-up, identifying new sources of funding, and attracting new volunteers. ■

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