

How We Organized Eye Care for Thousands of Evacuees

BY AMY G. COBURN, MD

When Hurricane Katrina struck the central Gulf Coast, hundreds of thousands of residents were forced to flee their homes. The city of Houston offered short-term shelter at Reliant Park and the George R. Brown

Convention Center. About 27,000 evacuees arrived at the two sites. Many had a desperate need for eye care but lacked the resources that would ordinarily be key prerequisites for obtaining treatment. They had no transportation, no verifiable insurance, no home address and no access to bank funds. Here's how Houston's ophthalmic community responded to that challenge.

A Call for Volunteers

The president of the Harris County Medical Society faxed an emergency request for help to Houston physicians. The fax included a legal opinion on liability issues from the presidents of the Houston Bar Association and the Houston Trial Lawyers Association stating that the Texas Good Samaritan statutes would exempt volunteers from lawsuits.

The Houston Ophthalmological Society (HOS), which represents 175 Eye M.D.s, also e-mailed a successful call for volunteers. Additional volunteers stepped forth after HOS made presentations at some local grand rounds. These volunteers included physicians, residents

and medical students, some of whom had themselves been displaced from Louisiana. Optometrist volunteers were coordinated by the University of Houston College of Optometry (UHCO) and the Luxottica Gift of Sight Foundation.

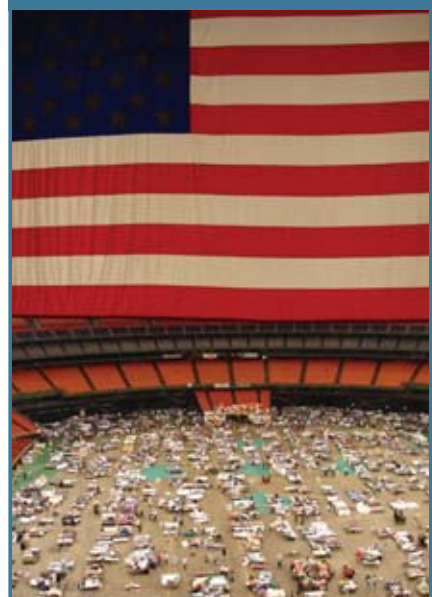
Eye Lanes Were Set Up

Three complete eye lanes were set up at each shelter. Ophthalmic equipment was provided by UHCO; Luxottica; Methodist Hospital; Lombart Optical Houston; Affordable Portables of Farr, Texas; Optos; Lions Club International and private physicians.

Lions Club volunteers in the Texas cities of Midland, Livingston and Corpus Christi loaded vans with equipment and 5,000 recycled spectacles, which they drove to Houston. Experienced volunteers trained new ones on site to do autorefractometry, lensometry, visual acuity measurement and Tonopen checks.

Volunteers were organized by shift. Physicians were credentialed on site at both shelters. This allowed them to write prescriptions. They were also given a written orientation sheet.

After the Hurricane



The Houston ophthalmic community evaluated and treated approximately 3,000 patients at two shelters: Reliant Park (above) and the George R. Brown Convention Center. Patients were seen seven days a week from 8 a.m. to 8 p.m. at the height of the need. Many additional evacuees were seen in academic and private clinics throughout Houston.

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Work Flow at Reliant Park

Reliant Park is an entertainment and tradeshow complex that features several large venues. A field hospital was set up in Reliant Arena, while Reliant Astrodome was the evacuees' general living shelter (see photo). At the Astrodome, loudspeaker announcements and flyers urged patients with visual problems to present to a triage nurse. They were then shuttled by bus to the field hospital, logged in by computer to the Ben Taub Hospital System and provided with a paper chart, before being escorted to the eye service area.

To provide some darkness in the brilliantly lit building, the eye service area was set up under three large striped tents. Equipment was sterilized between patients, and waterless hand sterilization dispensers and disposable gloves were provided at each station. Running water was available at portable stations near the eye tent area.

Patients were signed in by students or Lions volunteers, who helped them to complete a focused medical history form. The form included major diseases, surgeries, medications and allergies. Next, a volunteer recorded the patient's vision, performed autorefraction and Tonopen tonometry. The patient was seated and an ophthalmologist or optometrist assessed the patient.

Three phoropters were set up, with reading charts set at 20 feet and spotlights fixed on the charts. Refraction was performed if indicated, and patients were given a spectacle prescription. At that point patients selected frames, and a pair of glasses was manufactured on site and distributed by Wal-Mart and Houston Eye Associates opticians. If the lab was closed, patients were offered a pair of recycled spectacles provided by the Lions, with the option of having a new pair of glasses made at a later time. Zeiss Laboratories overnight-express mailed all high-power prescriptions, and SRx optical made all bifocals and trifocals overnight.

All children were given new glasses. Soft contact lenses and sterile solution kits were available on site for unusual highly myopic prescriptions in customary wearers.

Common Eye Problems After Hurricane Katrina

Patients frequently claimed that inability to see was one of the worst immediate problems they faced because they could not see well enough to relocate out of the shelters or read notices to connect with lost family members. Many people had lost their spectacles in the floods and more than 2,000 pairs of glasses were distributed. Because the rapidly shifting population lacked a permanent address, it was critical to quickly distribute glasses and medication on site.

About 10 percent of the patients needed treatment for glaucoma (some had lost their eye drops; others had previously been undiagnosed). Infections were common (including patients who had been in extended wear soft contact lenses since exposure to floodwater). Traumatic injuries included lacerations, corneal abrasions, orbital fractures and foreign bodies. We saw recent postop patients who needed follow-up. About 20 percent of patients had cataracts, uveitis, retinopathy (sickle cell, diabetic), retinal breaks, posterior vitreous detachments, papilledema, strabismus and undiagnosed amblyopia. Two pituitary tumors impacting the visual system were referred for treatment.

Patients were also taken to one of three slit lamps for anterior segment evaluation and, if needed, Goldmann tonometry was performed. Direct and indirect ophthalmoscopy was performed as indicated. An Optos Optomap retinal imaging system was available in the final week of the clinic. Charts were completed and returned to the medical records department.

If a patient was given a prescription, he or she could walk to a nearby van that contained a complete pharmacy (provided by CVS).

Work Flow at the Convention Center

At the George R. Brown shelter, the Luxottica Gift of Sight mobile eye van was deployed onto the convention floor. The van had onsite spectacle manufacturing at one end, and two fully equipped eye lanes separated by a curtain at the other end, including phoropters, projected eye charts, slit lamps, and direct and indirect ophthalmoscopes. A third eye lane was set up in a fully enclosed room at the edge of the convention hall.

Patients were signed in, and volunteers helped them to fill out a brief eye form before they were evaluated.

Eye records were logged in and retained by the Gift of Sight staff, and a second paper chart was generated if referral was needed to another specialty service or to the public hospitals. A fully stocked pharmacy van was present (provided by Wal-Mart).

Outside the Shelters

The city of Houston and volunteers from the Houston Livestock Show and Rodeo bussed overflow patients to the UHCO campus for exams.

Patients who could not be fully treated at the shelters were escorted to the medical referral services area of the field hospitals, where an appointment was booked within the requested follow-up period, the patient was given written instructions and transport was arranged.

Patients were triaged to Ben Taub General Hospital, Veteran's Hospital (staffed by Baylor College of Medicine), LBJ Hospital, Hermann Eye Center (University of Texas Health Science Center) or to the offices of both private and academic ophthalmologists. One physician, for example, performed immediate in office laser treatment of a retinal break. Others performed urgent glaucoma surgery.

Virtually all HOS members have seen Katrina victims in their offices. Referrals came from Louisiana colleagues, family and friends of evacuees in Houston, and from the Red Cross. Many dispensing ophthalmologists have donated spectacles to victims.

The physicians who participated in this effort consider it a privilege to continue to serve those in need.

Dr. Coburn is clinical associate professor at Baylor College of Medicine and HOS president-elect.