

**EYE CARE EMERGENCY
DISASTER RESPONSE PLAN
Houston, Texas
2007-2008**

**PREVENT BLINDNESS TEXAS
HOUSTON OPHTHALMOLOGICAL SOCIETY
UNIVERSITY OF HOUSTON COLLEGE OF OPTOMETRY**

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PREVENT BLINDNESS TEXAS/THE HOUSTON OPHTHALMOLOGICAL
 SOCIETY/UNIVERSITY OF HOUSTON COLLEGE OF OPTOMETRY
 Disaster Response Plan

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I. EXECUTIVE SUMMARY

The eye is particularly vulnerable to injury during disasters because it is exposed, easily penetrated by sharp objects, and subject to rupture or contusion from blunt trauma. Eye injuries often occur in association with head trauma or multiple systemic injuries which require expert triage and staging of care to preserve both life and sight. Airborne chemicals or smoke can cause debilitating eye pain and vision loss which impair both the ability of disaster response personnel to work and the cooperation of victims. Furthermore, victims often lose eyeglasses during disasters and become functionally visually impaired. A trained team of eye specialists and specialized instruments and supplies are needed to effectively examine, triage, and treat eye injuries during times of disaster.

This Disaster Response Plan (DRP) provides the framework for a response to eye injuries resulting from disasters within the jurisdiction of the Houston Branch of Prevent Blindness Texas (PBT), the Houston Ophthalmological Society (HOS), and the University of Houston, College of Optometry (UHCO). It is a result of extensive planning and preparedness and contains systems and procedures for managing the human and material resources of the organizations in providing emergency eye care to victims of disaster. It considers the impact on vision and eye injury from various potential disasters, the procedures to notify and mobilize eye care workers, the equipment and supplies needed to treat eye injury triage procedures and documentation of care.

The DRP serves a potential population of more than 5,500,000 from 10 counties. The most common disasters that occur within this jurisdiction are flooding, hurricane, chemical spills, explosion, and fire. Houston is also considered a potential target for terrorist activities due to extensive business and industrial development and high population density. The major areas within the jurisdiction are Houston, Sugar Land, Baytown, Clear Lake and Galveston.

The plan consists of the base plan and the hazard-specific annexes. Also listed are the names of participating medical professionals, volunteers, and eye care facilities in Houston. The base plan includes sections about demographics, economy, geography, climate, hazards, the ophthalmic impact of disasters on the community, the readiness capability of Prevent Blindness Texas, The Houston Ophthalmological Society, and UHCO, and the concept of operations, that details the combined organizations' working plan for response to disasters.

When needed, this plan provides access to additional human and material resources through mutual aid agreements with eye service providers from across Texas, and from Houston eye care providers at Baylor College of Medicine, The University of Texas Health Science Center at Houston, the MD Anderson Cancer Center, the University of Texas Medical Branch at Galveston, and the Texas Optometric Association. PBT also has many additional community volunteers who have received emergency disaster response training.

If you have questions or concerns about the Prevent Blindness Texas/Houston Ophthalmological Society/University of Houston College of Optometry disaster response plan, please contact Jim Hubbard at PBT, 713-526-2559 x 107, Amy Coburn, MD at 713-796-0120 or Earl Smith OD, PhD at 713-743-1899.

A. Purpose and Scope

This DRP provides the planning and implementation procedures necessary to meet the requirements set by Prevent Blindness Texas, the Houston Ophthalmological Society and the University Of Houston College Of Optometry for responding to disasters. This plan consists of a base plan and annexes. This plan is intended for and applies to Prevent Blindness Texas staff and volunteers, employees and ophthalmologists from The Houston Ophthalmological Society and employees and optometrists from the University of Houston College of Optometry. It provides guidance and procedures for providing a timely, appropriate and effective response to disasters in the Greater Houston Area. The plan also:

1. Identifies the possible disaster risks within the jurisdiction of Prevent Blindness Texas, the Houston Ophthalmological Society and the University of Houston College of Optometry as well as the anticipated effects of the potential disasters;
2. Describes the response capacity and strategy of the organizations, members and volunteers;
3. Provides procedures for managing the resources; and
4. Promotes a spirit of cooperation and mutual support among PBT, HOS, UHCO, the community, and local emergency management officials.

B. Distribution

Copies of the plan will be provided to the following entities:

1. Internal Distribution:
 - PBT Department Directors
 - PBT President
 - PBT Chair
 - PBT Disaster/Emergency Services staff and Volunteers
 - Mutual Aid Branches of PBT
 - HOS President and Executive Committee
 - HOS Membership
 - UHCO
2. External Distribution:
 - Harris County Medical Society President and Executive Committee
 - County Emergency Management
 - City of Houston Emergency Management
 - Voluntary Organizations Active in Disaster (VOAD) Agencies
 - Local Emergency Planning Commission (LEPC)
 - Fire Departments
 - Chairmen, Departments of Ophthalmology:
 - Baylor College of Medicine, University of Texas Health Science Center at Houston,
 - University of Texas Medical Branch at Galveston, MD Anderson Cancer Center
 - The American Academy of Ophthalmology
 - Prevent Blindness America
 - Texas Optometric Association
 - Harris County Optometric Society

3. Internet:
 - HOS website
 - PBT website
 - UHCO website

C. Planning Assumptions: Human and Material Resources

1. Medical eye care providers

Eye care including screening and triage, examination, glasses, and treatment for eye disease and injury is available to citizens of Houston through ophthalmologists (The Houston Ophthalmological Society and Houston area ophthalmologists, Departments of Ophthalmology based at Baylor College of Medicine; University of Texas Health Science Center at Houston; MD Anderson Cancer Center; and the University of Texas Medical Branch at Galveston), optometrists (Texas Optometric Association, University of Houston College of Optometry); and screening institutions (Prevent Blindness Texas, Lions Club). The Houston Ophthalmological Society represents over 190 practicing ophthalmologists in addition to ophthalmology residents and fellows. Prevent Blindness Texas is the largest affiliate of Prevent Blindness America, with 11 branches extending across Texas. There are over 700 optometrists in the Houston/Galveston area. The University of Houston College of Optometry has a large faculty, residents, and senior optometric students capable of engagement.

Medical eye care for indigent individuals is available through Prevent Blindness Texas; The University Eye Institute at UHCO; UHCO's Good Neighbor Clinic; UHCO's Nuevo Casa de Amigos Clinic; The Harris County Hospital District; Texas Children's Hospital; Star of Hope Mission Eye Clinic; The Hermann Eye Fund; The Houston Eye Associates Foundation; New Eyes for the Needy; Eye Care for Kids; the Lions Clubs of Houston; and several other not-for-profit entities.

The Michael E DeBakey Houston Veterans Administration Medical Center Eye service provides surgical and medical eye care for qualified veterans.

2. Surgical Eye Services, Houston

Surgical emergency eye services are available through both public and private hospitals and free standing ambulatory surgery centers. Major facilities include: The Memorial-Hermann Healthcare System, St. Luke's Episcopal Hospital, The Methodist Hospital, Harris County Hospital District Ben Taub and LBJ Hospitals, the Houston Veterans Administration Medical Center, St. Joseph Medical Center, MD Anderson Cancer Center and numerous ambulatory surgery centers.

3. Mobile eye care equipment for disasters: UHCO and PBT eye vans

a. UHCO supports and staffs the Mobile Eye Institute (MEI) purchased through the City of Houston which is capable of deployment during disasters. The van has two fully equipped eye lanes with slit lamps, direct and indirect ophthalmoscopes, tonometers and an automated perimetry (visual fields) instrument. It also has the capacity to manufacture spectacles. It requires road access and safe parking space at a disaster site.

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b. Prevent Blindness Texas has two large-capacity vans (16 passenger) which are capable of transporting personnel, portable eye exam equipment and supplies. There is no equipment permanently installed in these vans. They are stationed at the PBT Houston headquarters.

II. HOUSTON DEMOGRAPHICS, HOUSING, ECONOMY, GEOGRAPHY, CLIMATOLOGY, TRANSPORTATION AND MAPS

A. Demographics, Housing, Economy

The Greater Houston region is comprised of 10 counties: Montgomery, Harris, San Jacinto, Chambers, Fort Bend Liberty, Austin, Waller, Galveston and Brazoria. There are 5,539,949 individuals living within the DRP jurisdiction. The majority of the population lives in Harris, Brazoria, Ft. Bend, Galveston, and Montgomery counties. 27.5% of the population is under the age of 18; 44% from 18 to 44; 19.1% from 45 to 64; and 8.4% are 75 or older. The median age is 31 years. The average household size is 2.67 and the average family size is 3.39. The median income for a household is \$36,616 and the median income for a family is \$40,443. 19% of the population and 16% of the families live below the poverty line.

The ethnic distribution of the combined jurisdiction is:

White	49.27%
Black	25.31%
Am. Indians	0.44%
PI	0.06%
Asian	5.31%
Hispanic	18.31%
Other	1.30%

There are 2,040,117 housing units in the Greater Houston area with home ownership of 75.44%.

Approximately one third of the population of Houston is uninsured. According to Gateway to Care, of the 3.5 million residents in the City of Houston, 1.1 million are uninsured, including 52% of Hispanics, 28% of African Americans, and 25% of children. Of the families with medical coverage, only a small percentage of this group has vision coverage.

The predominant economic base in Houston is oil and gas exploration and production, accounting for 11% of the GAP. There has been a rapid growth of other sectors such as engineering services, health services and manufacturing. Houston is a major port and financial center. Biomedical research and aeronautics, and the ship channel are also large parts of the city's industrial base. The Houston metropolitan area comprises the largest petrochemical manufacturing area in the world, including manufacturing and processing of synthetic rubber, insecticides, and fertilizers. The area is also the world's largest for building oilfield equipment.

B. Geography

According to the United States Census Bureau, the Houston / Sugar Land / Baytown metropolitan area has a total area of 10,062 square miles, an area is slightly larger than New Jersey. The area is comprised of 8,929 square miles of land, and 1,135 square miles of water. It is located in the gulf coastal plains, with temperate grassland vegetation. The metropolitan area was built on forested land, marshes, swamp, and prairie, all of which can still be seen in surrounding areas. Much of the Houston area is flat, with flooding a recurrent problem.

Galveston is a barrier island and prone to hurricanes, storm surge, and flooding.

[Source: Harris County Flood Control District (HCFCD)]

C. Climate

The climate of the Greater Houston area is classified as humid subtropical. Houston's warmest month is July at about 94 degrees F (33 degrees C) and the coldest month is January at 61 degrees F (16 degrees C). The average yearly precipitation level is approximately 48 inches. Houston has occasional severe weather, mostly in the form of flooding. Spring super cell thunderstorms sometimes bring tornadoes to the area. Houston has experienced tropical storms and hurricanes in the past that brought severe damage to the city.

	Average High	Average Low	Average Precipitation
January	62.3F	41.2F	3.68in.
February	66.5F	44.3F	2.98in.
March	73.3F	51.3F	3.36in.
April	79.1F	57.9F	3.60in.
May	85.5F	66.1F	5.15in.
June	90.7F	71.8F	5.35in.
July	93.6F	73.5F	3.18in.
August	93.5F	73.0F	3.83in.
September	89.3F	68.4F	4.33in.
October	82.0F	58.8F	4.50in.
November	72.0F	49.8F	4.19in.
December	64.6F	42.8F	3.69in.

D. Transportation

Transportation in Houston is primarily by road, through use of private automobile, and bus service. Galveston Island is connected to the mainland via a causeway. There is a limited Houston light rail system from the South Loop 610 to Downtown, limited train service primarily for shipping, and airports at Intercontinental Airport, Hobby Airport and Ellington Field. Boats and ships travel through the ports of Houston and Galveston. Emergency medical helicopter service is available to area hospitals.

Greater Houston's freeway system includes 575.5 miles of freeways and expressways in the 10-county metro area. Houston freeways are heavily traveled and often under construction to meet the demands of continuing growth.

The Greater Houston area has a hub-and-spoke freeway structure with multiple loops. The innermost is Interstate 610, forming an approximately 10 mile diameter loop around downtown. The roughly square Loop-610 is quartered into the North Loop, South Loop, West Loop, and East Loop. The roads of Beltway 8 and their freeway core, the Sam Houston Tollway, are the next loop, with a diameter of roughly 25 miles.

Highways in the Greater Houston Area

Designation	Common Name
Spur 5	Alvin Freeway
Interstate Highway 10	Baytown-East Freeway
U.S. Highway 90	Crosby Freeway
Spur 330	Decker Drive
U.S. Highway 59	Eastex Freeway
Farm to Market Road 1764	Emmett F. Lowry Expressway
Fort Bend Parkway Toll Road	
State Highway 146	Fred Hartman Bridge
State Highway 99	Grand Parkway
Interstate Highway 45	Gulf Freeway
Hardy Toll Road	
Interstate Highway 10	Katy Freeway
State Highway 225	La Porte Freeway
Interstate Highway 610	South, West, North and East Loop
Interstate Highway 45	North Freeway
U.S. Highway 290	Northwest Freeway
Beltway 8	Sam Houston Tollway
Interstate 610	Sidney Sherman Bridge
State Highway 288	South Freeway
U.S. Highway 59	Southwest Freeway
Spur 527	The Downtown Split
State Highway 249	Tomball Parkway
Westpark Tollway/Fort Bend Westpark Tollway	

The Impact of Blocked Highways on Eye Care in Times of Disaster and Evacuation

The road system of Houston is vulnerable to disruption during disasters. Road blockage by traffic or road and rail blockage by flooding would interfere with the ability of eye care workers to travel to a disaster site, mobilize supplies, and evacuate victims. The City of Houston /UHCO MEI needs road access to be engaged. Alternative transportation of supplies, workers and victims by boat or air would be required in the event of road blockage. Hurricane Rita in 2005 spurred the largest evacuation in United States history. Houston's evacuation preparations and were overwhelmed despite implementation of contraflow lanes to ease state highway system gridlock; many motorists ran out of gas or experienced breakdowns in record-breaking heat nearing 100°F. Since 2005, a staged evacuation notification system has been instituted to manage future evacuations in an orderly fashion.

Map: Houston, Texas



III. HAZARD RISK ASSESSMENT AND IMPACT ANALYSIS

A. Hurricane

Because of its close proximity to the Caribbean Sea and the Gulf of Mexico, Houston and Galveston have a significant probability of exposure to hurricanes and tropical storms. In 1837, the Racer's Storm passed just south of Houston, raising water levels by four feet. The Great Hurricane of 1900 razed nearby Galveston but weakened to a tropical storm before it reached Houston. Hurricane Carla hit the city directly in 1961, causing major damage. In 1983, the city experienced a direct hit from Hurricane Alicia, causing one billion dollars of damage to the city. The most destructive and costly natural disaster in city history was Tropical Storm Allison of 2001, with 37 inches of rain which completely overwhelmed the area's flood control system and caused \$6.05 billion of damage and incapacitated a large part of the medical center. In 2005, Hurricane Rita, a category 5 storm threatened the city, prompting mass evacuation. While an eastward change in landfall avoided damage in Greater Houston, Hurricanes Katrina and Rita caused the destruction of the urban and medical infrastructure along the Gulf Coast and produced a mass population evacuation to Houston. Tropical Storm Erin made landfall on the Texas coast in August 2007 causing many roads and neighborhoods to be flooded. METRO halted its light rail and bus services, and four deaths were reported. The Houston Fire Department reported 72 rescue operations.

Eye Care Needs, Hurricane: The most prevalent eye problems among evacuees of Hurricanes Katrina and Rita were loss of glasses, loss of needed eye medications to manage glaucoma, flood-related infection, blunt trauma, and need for re-establishing ongoing care of chronic eye disease such as cataract, glaucoma, and diabetic retinopathy in the evacuee population. There was also need for diagnosis and management of acute eye problems such as new retinal breaks, and a limited number of penetrating globe injuries and orbital fractures. Treatment of the evacuated population was hindered by lack of medical records; lack of transportation and contact

information for continuity of care; and lack of funds to purchase glasses and medication. Communication and ground transportation of supplies, evacuees, and aid workers are potentially disrupted during storms. The use of the UHCO Mobile Eye Institute and the PBT vans may be limited by poor road access.

B. Flooding

Flooding is a major threat in Houston, particularly in fall and winter. The marshland around Houston easily floods due to extensive building and the low land elevation. Many of the bayous in the city are close to flat land, so in the event of an overflow, many homes and business are vulnerable. Many of the city's older suburbs have outdated sewer systems, which provide inadequate drainage in the event of flash floods.

Eye Care Needs, Flooding: It is anticipated that flooding would cause loss of glasses, contact lenses, medications, and medical records. Infection exposure to flood-contaminated water may occur, as well as blunt or penetrating eye and orbital trauma. Patients may miss scheduled eye care appointments. Road access for evacuation and transport of eye care workers and supplies may be limited. The use of the UHCO MEI and PBT equipment and screening vans may be limited by flooded roads.

C. Tornados

Unlike much of Texas, Houston is not considered a part of Tornado Alley, but smaller tornadoes are common during severe weather. They are most likely to be found along frontal boundaries of air mass during the spring months. The most common tornadoes in Houston measure F1 on the Fujita scale, which can destroy or damage one or two buildings. The strongest recorded tornado in Houston history was an F4 on November 21, 1992.

D. Fire, Explosion, Chemical Spills, Terrorist Attack

Beyond the single family dwelling or apartment fire, Houston is at risk from fires and explosions from one of the many oil refineries or chemical plants located in Houston and the surrounding areas. Relatively high population density and the presence of major industrial complexes present the possibility of Houston becoming a terrorist target. The Houston Metropolitan Statistical Area has nearly 40.5% of the nation's base petrochemical capacity.

The oil refineries are listed below:

Baytown Refinery (Exxon Mobil)
Deer Park Refinery (Shell Oil)
(Spring)Erickson Refining Corporation (Renexus International Corp)
Houston Refinery (Lyondell)
Houston Refinery (Valero)
Pasadena Refinery (Crown Central Petroleum)
Texas City Refinery (BP)
Texas City Refinery (Marathon Petroleum Company)
Texas City Refinery (Valero)

The Houston area is also the home to 412 chemical plants with approximately
37,500 employees

Air Liquide USA LLC
BASF Corporation
Bayer Corporation
Celanese Clear Lake
Chevron Phillips Chemical
Equistar Chemical
ExxonMobil Chemical Company
Huntsman Corporation
Innovene
Lyondell Chemical Company
OxyVinyls, LP
Resolution Performance Products LLC
Rohm and Haas Texas Inc.
Shell Chemical, LP
Solutia, Inc.
Solvay America, Inc.
The Dow Chemical Co.
The Goodyear Tire & Rubber Company
The Lubrizol Corporation
Total Petrochemicals USA, Inc.

Examples of Explosions, Houston, Texas

Texas City Refinery Blast, 1947: The Texas City Disaster is generally considered the worst industrial accident in American history. On April 16, 1947, detonation of approximately 2,300 tons of ammonium nitrate on board the *SS Grandcamp* in the port at Texas City killed 581 people and injured over 5,000. More than 500 homes were destroyed, leaving 2,000 homeless. The seaport was destroyed and many businesses were burned. Burning wreckage ignited dozens of oil storage and chemical tanks at several chemical plants including Monsanto and Union Carbide.

Texas City British Petroleum Refinery Blast, 2005: On March 23, 2005, a massive explosion and fire at the third largest US petroleum refinery resulted in 14 deaths and more than 100 injuries, including eye injuries and burns.

Examples of Terrorist Attacks

While Houston has not experienced a terrorist attack, there are many potential targets, including NASA, petrochemical refineries, manufacturing sites, businesses, large entertainment venues, malls, and other social gathering sites. Experiences reported from other cities may be extrapolated for eye care disaster planning.

9-11 New York City Terrorist Attack: Hundreds of survivors of the 9/11 attack and emergency response personnel suffered eye injuries from falling debris, smoke, dust and direct trauma. Within 12 hours of the first building crash, emergency care was sought by 511 (71%) of the 723 survivors. Rescue workers accounted for 59 (51%) of 115 survivors presenting to emergency departments during the first 24--48 hours after the attack. Among 790 survivors with injuries, 386 (49%) had inhalation injuries and 204 (26%) had ocular injuries. A total of 443 (56%) survivors were treated for inhalation injury, ocular injury, or a combination of both without additional injuries. Among survivors hospitalized with injuries, 52 (37%) sustained inhalation injuries and 27 (19%) sustained burns. Most survivors with fractures (59%), burns (69%), closed head injuries (57%), or crush injuries (75%) were hospitalized for additional treatment. The injury pattern among rescue workers differed from the pattern among other survivors. A significantly higher percentage of rescue workers sustained ocular injuries (39% versus 19%), and a significantly lower percentage of rescue workers sustained burns.

Oklahoma City Bombing: Eye injuries occurred in concert with severe neurological and orthopedic injury, requiring coordination and triage of eye treatment with general trauma care. Open globe was the most serious type of eye injury reported.

Tokyo subway Sarin attack, 1995 - 99% of the patients had ocular symptoms of miosis, and 45% of patients had ocular pain.

Eye Care Needs: Explosion, Fire, and Airborne Chemical/Toxin Release: Smoke, airborne chemical irritants (such as chlorine gas), acid or alkali exposure, burns, blunt or penetrating trauma, and airborne debris can affect both disaster victims and the health of emergency responders. Chemical injuries of the eye require immediate treatment, with delay in treatment resulting in potential blindness. Alkali injuries (cement, lye) in particular can be devastating

despite immediate irrigation. Airborne irritants may rapidly affect a large segment of the population distant from the primary disaster site, which will require victims to travel to emergency centers. Treatment of both victims and first responder healthcare workers must be planned. Victims often sustain multiple injuries, including orthopedic, vascular, and neurological injury. Eye care requires triage with other medical and surgical specialists, and the patient may be medically unstable for transport. Penetrating eye injuries, metallic corneal foreign bodies, chemical exposure, hyphema, retinal detachments, and orbital and ocular trauma are all common eye injuries during natural disasters, explosions, and terrorist attacks. The presentation of these conditions can be subtle, and it is often difficult to diagnose and appropriately triage these eye conditions during the acute phase of disaster response. All of these conditions can lead to permanent vision loss that can be minimized or prevented given prompt, appropriate ophthalmic intervention.

IV. DISASTER READINESS ASSESSMENT SUMMARY

A. Disaster Readiness Assessment (CDRA) Ratings

Based on the work done on this Disaster Readiness Assessment, the organizations will be able to respond to medium and large scale disasters within the Greater Houston area. For the first five days of a major disaster or as directed by the local disaster management authority, the organizations will focus on triage and emergency treatment of workers, disaster victims and evacuees. The organizations will support ongoing eye treatment of disaster workers as needed, and provide ongoing care for evacuees and victims.

The largest eye disaster response within the Houston area in the past five years occurred during Hurricane Katrina in 2005. PBT, Houston Ophthalmological Society, the major Houston ophthalmology teaching institutions, the University of Houston College of Optometry, the Harris County Hospital District, volunteer ophthalmologists, optometrists and opticians, and the Lions Club vision screeners provided acute care for trauma and infectious disease, retinal and glaucoma emergencies, prescription and distribution of glasses and prescription of eye medications for over 3,000 evacuees on site in shelter eye clinics at the George R. Brown Convention Center and The Houston Reliant Astrodome Shelter. The local eye care community treated many thousands more victims outside the shelters in public and private clinics and eye care institutions.

Houston's Mobile Eye Care Teams and networks of emergency centers which are deployed throughout the year for community outreach can be redeployed for a disaster response.

Trained teams of ophthalmologists, optometrists, students, and eye screeners provide ongoing services to the underprivileged and homeless of Houston. These form a mobile working team with ongoing experience in screening and triage at various sites across Houston. UHCO deploys the MEI with an optometrist and students to provide eye care in Houston neighborhoods and institutions, and Prevent Blindness Texas performs regular eye screenings at many locations, including numerous homeless shelters. Experience with community outreach screening protocols, documentation of encounters, transportation of equipment, and triage of patients is an ongoing process in Houston that can be utilized by the organizations involved in the event of a disaster. The extensive network of Houston emergency centers, institutions, and clinics capable of providing eye care will be appraised of this DRP to coordinate triage.

B. Resource Directories Maintained by PBT

PBT has a Resources Directory which is located in the PBT office and maintained by PBT Staff and volunteers. The Resource Directory includes the following information:

Material Resources

Human Resources

Eye Service Early Response Team Membership by Group/Activity/Position

Shelter facilities in Houston

Houston area emergency centers, hospitals, and surgical centers equipped to treat eye patients

Vendor list (Spectacle Manufacturing and Dispensing Companies, Eye Equipment, and Pharmaceutical Company Contacts)

Agreements with Vendors

Agreements with community and government partners

V. CONCEPT OF OPERATIONS

A. Establish Partnerships with Emergency/Disaster Management Agencies

Red Cross

Fire Department

Harris County /City Emergency Management

Harris County Medical Society

Police Department

National Guard

B. Establish Emergency Response Eye Team Database

Ophthalmologists

Community Ophthalmologists (note practice specialty)

University of Texas Health Science Center at Houston (including residents)

Baylor College of Medicine (including residents)

University of Texas Medical Branch at Galveston (including residents)

MD Anderson Cancer Center

Optometrists

University of Houston School of Optometry (including residents and optometry students)

Community optometrists

Volunteers

Lions Clubs

Prevent Blindness Visionaries

Pre- optometry Club Volunteers

Prevent Blindness Houston and State Staff

Prevent Blindness Board of Directors

C. Credentialing

Medical volunteers will be credentialed before being placed on call list and receive identification badges

Ophthalmologists: Texas state license

Optometrists: Texas state license

Volunteers

- PBT training certificate for lay vision screeners
- Certified Ophthalmic Assistant
- Certified Ophthalmic Technician
- Lions Club Training certificate
- Certification of enrollment in medical school, ophthalmology residency, or fellowship
- Certification of enrollment in Optometry School program
- Licensed medical professional (nurse, state license)

D. Letters of Understanding and Participation

To be signed by all participating individuals and institutions

PBT attorney to help draft the document

PBT to merge, mail and record in online database file; PBT set up and to keep files

E. Emergency Plan Concept

- PBT/HOS/UHCO intends to support an eye care disaster response in the counties of the Greater Houston Area.
- The Eye Care Disaster Team Response Coordinator may be notified by City of Houston, Harris County Emergency Management, or other authority of an actual or impending disaster requiring eye services.
- Physicians will also be notified through the Harris County Medical Society, which contacts the presidents of the subspecialty societies such as the Houston Ophthalmological Society.
- On behalf of the Houston Ophthalmological Society, Prevent Blindness Texas, and UHCO, the person serving in the position of Emergency Response Coordinator will ensure the deployment of appropriate equipment, medications, supplies, health care volunteers and PBT personnel to meet the immediate eye needs of the victims and workers.
- The organizations will initially establish an operations center in a shelter or location deemed appropriate and safe by City/County officials.
- PBT/HOS/UHCO will collaborate with local emergency management, other voluntary agencies and other community-based organizations in order to best serve disaster clients and emergency workers.
- If the demands of the disaster exceed the resources of the local organizations, they will request additional resources from the medical community in the State of Texas.

VI. IMPLEMENTATION OF THE PLAN

A. Response Triggers

The following situations will activate this plan:

- Any disaster occurring within the jurisdiction of Prevent Blindness Texas and Houston Ophthalmological Society and University of Houston College of Optometry that requires eye services;
- Transportation disasters that occur outside of the jurisdiction, but where the families of a victim or victims reside within the jurisdiction of Prevent Blindness Texas, Houston Ophthalmological Society and University of Houston College of Optometry.
- Any pending disaster, e.g., hurricane or severe weather watch; or
- Any major sheltering of evacuees from another jurisdiction: Call out by Emergency organization requesting eye service aid to Harris County Medical Society (Houston Ophthalmological Society). The Houston Eye Disaster Response Coordinator will contact Eye Disaster Team members.

B. Notification of Prevent Blindness Texas

The 24-hour Eye Disaster number is the primary means used by the Harris County Medical Society or other local emergency management departments to alert the Eye Disaster Response Coordinator contact person of pending or actual events and requests for emergency eye care assistance. The President of HOS and/or his designee will be notified. The Director on Call and Captain from the Emergency Response Team will carry cell phones for incidents requiring immediate activation of the collaborative vision services. The following team members will be alerted:

- PBT and HOS Presidents, UHCO Dean, PBT Board of Directors
- Eye Care Emergency Response Team (composed of representatives of the Houston Ophthalmological Society, Prevent Blindness Texas, University of Houston College of Optometry)
- PBT Program Director and Staff
- Full Emergency Response Team (DAT)
- Liaisons to local government; e.g., Incident Command and/or emergency operations center (EOC)

C. Emergency Notification Planning Template

The following information will be obtained by the eye disaster coordinator after discussion with the local emergency response manager in order to plan eye care and to disseminate information to the eye volunteer community.

- Type of disaster
- Location of disaster
- Number of victims
- Anticipated type of eye injuries (chemical, crush, penetrating, smoke, etc)
- Safety at disaster site (required protective gear)
- Equipment/medications list

- Number of volunteers needed with medical, surgical, or administrative training for each work shift
- Open transportation access routes
- Availability of electrical outlets/power at disaster site
- Closest eye hospitals or clinic triage areas for staffing of triage sites
- Contact information (phone number, websites) for volunteers to check-in on site and to contact for updates and changes in plans
- Anticipated volunteer schedule
- Duration of eye services
- Governmental agency in charge of disaster relief operation

D. Eye Disaster Team Volunteer “Call-out”

Disaster Committee Members Review the volunteer data base and call out individuals who can fill the medical need; determine what equipment is needed and how it will be delivered.

E. Medical Equipment and Supplies are delivered (see planning lists below)

Eye Vans (UHCO’s MEI, University of Houston College of Optometry and PBT equipment vans); and portable eye equipment delivered without eye vans per EMS instructions

F. Plan on-going schedule

4 hour shifts; ophthalmologist, optometrist, PBT staff, community volunteer teams. Scheduling will be done through the Prevent Blindness Texas office. Schedules will be filled out via telephone call and via email. A web-based sign-up sheet will be developed.

G. Volunteer Command Structure and Responsibilities at Disaster Site

Ophthalmologists: assess, treat, and triage patients

Optometrists: assess, treat and triage patients.

Volunteers, PBT staff: set up care area with chairs, post signs, staff check- in, provide badges for volunteers, organize patient flow, sterilize treatment area and equipment, scribe, replenish supplies, copy records, telephone and e-mail support and communication, implement doctors’ triage plans

H. Emergency Supply Lists

Eye team and city emergency management will share in planning the eye treatment area and in stocking supplies for disasters.

Disaster supply lists will also be supplied to major chemical and manufacturing plants for on-site storage of supplies.

The City of Houston Emergency Management Department will be responsible for supplying gloves, masks, perishable drugs and irrigation solution/tubing as part of their emergency drug stocks and will be responsible for transporting medications to the disaster site for use by eye care providers. These supplies are listed in red print.

The Houston Eye Disaster Response Team will be responsible for bringing diagnostic eye equipment to the disaster site.

Depending on the nature of the disaster and road access, the UHCO MEI will be deployed to the disaster site.

If roads and parking prohibit the safe use of the UHCO MEI, the Houston Eye Disaster Response team will work with the emergency management agency to bring portable equipment to the disaster site by alternative transportation and establish eye care for evacuees away from the primary disaster site.

Supplies Per group of 25 victims

1. **Power Source:** for equipment, lighting, and computers (the MEI van has a generator)
2. **Medical Equipment**
 - 3 near cards
 - 3 penlights
 - 2 portable slit lamps; 2 mounted slit lamps in MEI if used
 - 2 direct ophthalmoscopes
 - 1 indirect ophthalmoscope (available in the MEI if used)
 - 1 Tonopen with covers (Goldmann tonometer in eye van)
 - 2 jeweler's forceps, 1 .3 forceps, 1 0.5 forceps, locking micro needle holder
 - bandage scissors
 - Micro scissors
 - 25 large paper clips to create lid retractors; 2 Desmarres retractors
 - 1 magnifier / loupes
 - 1 hemostat
 - For non-urgent, long-term mass population evacuee care in an evacuee shelter setting: spectacle prescription and distribution on site
3. **Medical Supplies**
 - Nonsterile disposable gloves - 3 boxes (100 each)
 - Sterile gloves, size 8 - 25
 - Masks - 2 boxes of surgical masks
 - Protective goggles, protective gear as deemed necessary by EMS
 - Irrigation solution - 30 bags of sterile irrigation solution (normal saline, ringers lactate, or other isotonic crystalloid solution)
 - Sterile eye wash - 10 bottles
 - IV tubing for irrigation - 30 lines
 - Sterile cotton tip applicators - 1 box of 100
 - Oval eye pads - 3 boxes
 - 4x4 sterile gauze - 3 boxes
 - Tape: 5 rolls each of ½ inch plastic, ½ inch paper
 - Tb syringes with 30 g needles - 25
 - 5 cc syringes with 20 g needles - 25
 - Eye shields - 20 metal or plastic

- Contact lens cases - 20
- 6-0 vicryl suture - 8
- 8-0 nylon suture - 8

4. Medications/drugs

- Betadine 5% solution - 2 bottles
- Antiseptic hand and instrument wipes
- Medical grade (isopropyl) alcohol - 3 bottles
- Wound, hand/instrument cold sterilization
- Proparicane 0.5% anesthetic drops - 3 bottles
- Xylocaine 2% with epinephrine solution for injection, multidose bottle - 3
- Fluorescein-impregnated paper strips - 1 box
- Litmus paper
- Antibiotic drops and ointment (*levofloxacin/gatifloxacin/ moxifloxacin/bactitracin ointment, neodecadron ointment*),
- Steroid drops (prednisolone acetate 1%) - 3 bottles
- Dilating (mydriatic/cycloplegic) drops (*homatropine 5%, atropine 1%, mydriacyl 1%*), - 1 bottle each
- Glaucoma drops (*pilocarpine 2%, timolol 0.5%*) - 1 bottle each
- Acetazolamide (*diamox*), 250 mg - 50 tablets

5. Office and Logistical Supplies:

- Medical record templates (see template below)
- Patient and volunteer sign-in sheets
- Schedule sheets
- Black pens, clipboards, carbon paper, extra blank paper
- Cell phones, wireless computers and PDAs (check with city/red cross about plans to communicate)
- List of volunteers and triage resources
- Signs for check-in area, waiting area, exam stations, checkout area
- Badge holders
- Containers and locks for supplies

6. Specific disaster supply requirements

Chemical: anesthetic drops, irrigation solution and IV lines, lid retractors, cotton tip applicators, litmus paper, bandages and tape, topical cycloplegic agents, antibiotics, glaucoma medication

Smoke: irrigation, topical anesthetic, bandages, tape, lid speculum

Trauma: perforating, penetrating, contusion, rupture, intraocular foreign body, hyphema, lid and adnexal injury: plan for triage to medical center off site for globe, lid or adnexal repair unless the patient is unstable for transport and immediate primary ocular intervention is deemed essential to save the eye: topical or systemic antibiotics, eye shield, tape, anesthetics, suture, forceps, and scissors

Displaced population: eye care at large-scale evacuee shelters will provide basic eye care, including glasses, and then refer off site for follow-up

- a. Plan for network of referral to eye care centers for surgery, advanced diagnostic testing.
- b. Access to and from disaster site (note accessible roads, air, boat): plan with main coordinating disaster team, note accessible triage centers

I. Treatment Area Design:

MEI parking area near power source if possible

Triage/waiting area:

- Curtains, tent, or partition with signage
- Check-in table, chairs

Eye exam/treatment stations

- Check-out /triage table (determine what is available on site, what needs to be brought in to disaster site)
- Re-supply drug/office supply stock area

J. Medical Template Form

This form is used to record patient encounters at the disaster site

Print and store duplicate/carbon triage forms at Prevent Blindness Texas (electronic template storage to reprint)

One copy for patient chart, one copy for PBT records (HPPA compliant)

Includes:

Demographics

Name
Social security #
Address, phone

Chief complaint/allergies/significant medical and eye history

Examination

Vision
External
Slit lamp
Other: pressure, visual field, retina, neurological

Assessment

Plan

Treatment plan
Triage site, urgency of triage
Transportation mechanism

K. Ongoing Actions

- Opening up a Vision Emergency Relief Operation
- Providing individual assistance
- Coordinating with government agencies
- Coordinating with voluntary agencies

- Coordinating with other emergency units
- Requesting local external resources

VII. REPORTING PROCEDURES

- A. Emergency Response Team to boards of HOS, PBT, UHCO
- B. PBT board to
 1. Local government
 2. Other voluntary agencies

VIII. CONTINUITY OF OPERATIONS PLAN (COOP)

During the same period that disaster service is being handled, PBT, HOS, UHCO and the medical professionals who work as a part of the ongoing relief process must continue to perform their day-to-day work of screening vision, performing examinations, and performing surgeries to continue care for the ongoing vision needs of the general population of Houston. It is through this plan that the “Vision Community” seeks to serve those individuals devastated by a disaster and still continue to work with the greater population.

IX. LOCAL GOVERNMENT, VOLUNTARY AGENCIES

Copies of all of our agreements are kept in the PBT offices. Unless noted otherwise above Jim Hubbard and Dr. Amy Coburn are responsible for maintaining these relationships and are the primary contacts for our two organizations.

X. EVALUATION AND MAINTENANCE

The Emergency plan will be reviewed and updated on an annual basis. If significant changes occur, the plan will be reviewed and updated on a more frequent basis. The Disaster Response Committee at HOS and PBT are responsible for conducting the review and update of the disaster review plan.

XI. FUNDRAISING AND PUBLIC AFFAIRS

A. Fundraising

PBT will designate funding for PBT disaster response staff and production and maintenance of templates and records.

B. Public Affairs

When a disaster occurs, PBT will immediately inform the Greater Houston community that emergency eye services are being provided to people impacted by the disaster. The community will also be informed that PBT is dependent upon voluntary contributions to provide such disaster services and that all Red Cross disaster assistance is free.

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XIII. ANNEXES

Group/Activity Annexes

Emergency Response Team Manual

Table of Organization

Resource Directories – optometrists, ophthalmologists, students, community volunteers

Contact Lists for volunteers and medical professionals

Service Area Notification procedures and contact list

ANNEX 1

HOUSTON AREA OPHTHALMOLOGISTS: see Houston Ophthalmological Society website member directory at: www.hosmd.org

ANNEX 2

HOUSTON AREA OPTOMETRISTS

SOBY ABRAHAM, OD	DOUGLAS BLANKENSHIP, OD	BARBARA CHOI, OD
CHRISTINE ACOSTA, OD	JANET BLOCK, OD	JUNG CHOI, OD
MONIQUE ADAMS-DEROUEN, OD	DAVID BOECKMAN, OD	BETTY CHOW, OD
CHRISTINE AGUILAR, OD	ROGER BOLTZ, OD	MARILYN CHOW, OD
APEAMEOKHAI AITSEBAOMO, OD	RUSSELL BOND, OD	ALICE CHOY, OD
LETICIA ALBIN, OD	JONATHAN BOULTINGHOUSE, OD	VICTOR CHU, OD
MAJEL ALEXANDER, OD	NICOLE BRASSELL, OD	LILI CHU, OD
CHRISTOPHER ALLEE, OD	GREGORY BREAUX, OD	WENDY CHUNG, OD
TAMMI ALLSEP, OD	MICHAEL BRECKEL, OD	SONHUI CHUNG, OD
SABA ALSHEIKH, OD	JACQUELINE BRENDING, OD	PATRICIA CISARIK, OD
MARK ANDERSON, OD	DAVID BRIDGES, OD	JAMES CITEK, OD
RHONDA LYNN ANDERSON, OD	DONALD BRIGHT, OD	BRUCE CLINE, OD
DOUGLAS APPEL, OD	CATHERINE BROOKS, OD	TAMIA CLYNE, OD
RAYMOND APPEGATE, OD	SYLVIA BROWN, OD	JACOB COHEN, OD
THOMAS ARNOLD, OD	PATRICIA BROWN, OD	LARRY COHEN, OD
JULIO ARROYO-REDONDO, OD	GINGER BROWN, OD	GILBERT COHEN, OD
JILL ATRY, OD	EARL BROWN, OD	DENETRICE COLEMAN, OD
WARREN AWALT, OD	SARA BROWN, OD	SANDRA COLLAZO, OD
AMANDA BACHMAN, OD	SHERRI BROWN, OD	LEE COLLINS, OD
IMRAN BAIG, OD	ROBERT BRUMBELOW, OD	TAMARA CONATSER, OD
R BAILEY, OD	PHILLIP BRUNSON, OD	TERRI CONRAD, OD
AMRITA BAINS, OD	DARRICK BUB, OD	CECILIA COOK, OD
RICHARD BAKER, OD	BLYTHE BUCKER, OD	DAVID COOPER, OD
YAQUN BAO, OD	GARY BUETTNER, OD	SUZANNE CORREALE, OD
LEANDRO BARCACEL, OD	DAI BUI, OD	LOURDES COSTA, OD
WILMA BARNES, OD	THOMAS BUI, OD	MARY COX, OD
LAURA BARNETT, OD	JENNIFER BUI, OD	MATTHEW CROOKSTON, OD
BETHANY BARRETT, OD	ROSE-HONG BUI, OD	LISA CROUCH, OD
NICOLE BAUMAN, OD	CORINA BUSUIOC, OD	ISABEL CRUZ, OD
MARTIN BAUMOHL, OD	GEOFFREY CALAWAY, OD	DEBRA CURRIE, OD
DAVIDA ANN BAXTER, OD	CARRIE CAMPBELL, OD	RUCHIRA DAMANI, OD
MARVIN BAZA, OD	SHERRI CAMPBELL, OD	HA DANG, OD
GUY BEAVERS, OD	LON CARTWRIGHT, OD	THUYHONG DANG, OD
TROY BECKER, OD	LORENA CASTANEDA, OD	TUAN DANG, OD
PAUL BECKWITH, OD	KERRY CASTIGLIONI, OD	KEITH DANZ, OD
DAVID BEELER, OD	CHRISTINE CASTILLO, OD	DAVID DAO, OD
J BENAVIDES, OD	ANN-MARIE CAVALLARO, OD	DIANNE DAO, OD
DIANE BERCE, OD	JOHN CAYNON, OD	STEVEN DAVENPORT, OD
JAN BERGMANSON, OD	LILIANA CERVANTES KARIM, OD	JIMMY DAVIES, OD
SHARON BERMAN, OD	LAIRY CHANDLER, OD	GREGORY DAVIS, OD
DEBORAH BERNAY, OD	VICKI CHANG, OD	POLYANNA DE LA GARZA, OD
MONICA BERTRAND, OD	DORIS CHAO, OD	CRISTINA DE LA PENA, OD
KIMBERLY BERTRAND, OD	HANH CHAPMAN, OD	DONALD DEAN, OD
KELLEE BERTSCH, OD	AMY CHARLES, OD	MICHAEL DEL SARDO, OD
LOUIS BINDER, OD	JOHN CHATELAIN, OD	TYRUS DEMOUCHETTE, OD
LARRY BINFORD, OD	YI-HSIU CHEN, OD	E. DENTON, OD
PAUL BLACK, OD	HSIN CHEN, OD	VIRAL DESAI, OD
D. BLACK, OD	HAN CHENG, OD	JASON DEVINEY, OD
CARL BLACKBURN, OD	ALLEN CHIN, OD	AMER DIAB, OD
DOUGLAS BLAIR, OD	ALLEN CHIN, OD	MARTHA DIAZ, OD
DORSEY BLAIR, OD	DAVY CHIN, OD	DEAN DICKS, OD
THOMAS BLANKENSHIP, OD	DOYEON CHOE, OD	THOMAS DILLER, OD

PREVENT BLINDNESS TEXAS/THE HOUSTON OPHTHALMOLOGICAL
SOCIETY/UNIVERSITY OF HOUSTON COLLEGE OF OPTOMETRY
Disaster Response Plan

DIEP DINH, OD
RICK DINH, OD
SANH DINH, OD
MAURY DISKIN, OD
STEPHEN DITTA, OD
DIANE DO, OD
TRAM DO, OD
JULIANNE DO, OD
HIEU DO, OD
PHU DOAN, OD
ANH DOAN, OD
STEPHANIE DOLLAK, OD
JOSEPH DOLLAK, OD
BRETT DONALDSON, OD
RYANN DONALDSON, OD
PHUONG-LOAN DONG, OD
MINH DONG, OD
LISA DUCHMAN, OD
LESTAVIA DUPLANTIER, OD
KAREN EBLING, OD
RICHARD EBLING, OD
ZEINEP ECHETEBU, OD
JANET EKEZIE, OD
SAMI EL HAGE, OD
KIA ELDRED, OD
GLENN ELLISOR, OD
HENRY ERIKS, OD
KARL ERMIS, OD
KEITH ERMIS, OD
SAINA ESFANDIARI, OD
ELENA ESTEFAN, OD
DEBORAH EVANS, OD
WILLIAM FACH, OD
REZA FARAHANI, OD
JULIET FARMER, OD
KAREN FERN, OD
DOUGLAS FINGOLD, OD
ROBERT FLANDERS, OD
EDWARD FONG, OD
GRACE FONG, OD
DEBORAH FONTENETTE, OD
DORIS FORTE', OD
MICHAEL FOSTER, OD
CHARLENE FRANKLIN, OD
LISA FRAZIER, OD
GARY FREDERICK, OD
KEITH FREDERICKS, OD
DARLENE FREEMAN, OD
MICHAEL FRIEDBERG, OD
MONTE FRIEDMAN, OD
MARTHA GALLIA, OD
LENA GANIM, OD
DEANNA GARCIA, OD
CLAUDIA GARCIA, OD
SERITA GARDNER, OD
BRUCE GARFINKLE, OD
BILLY GARNER, OD
JORGE GARRETT, OD
SONIA GARRIDO, OD
STEVEN GARZA, OD
DAVID GARZA, OD
KEVIN GEE, OD
STEPHANIE GELFIUS, OD

NANCY GEORGE, OD
G GERONDALE, OD
MARY GHOUBRIAL, OD
AMBER GIANNONI, OD
CHARLES GIBSON, OD
GRANT GIBSON, OD
MISTI GIBSON, OD
NICOLETTE S. GILMORE, OD
TERRY GLASSER, OD
DONALD GLENZ, OD
ROOSEVELT GLOYD, OD
SAMUEL GOLD, OD
MARC GOLD, OD
PEDRO GOMEZ, OD
CLINT GONZALES, OD
LORI GONZALES, OD
MONICA GONZALES DELIGANIS, OD
ELIZABETH GOODNIGHT, OD
MISCHELLE GRAGG, OD
LEIGH GREEN, OD
DIANE GREGORY, OD
ALLEN GRIFFIN, OD
ALVIN GURIN, OD
STEPHEN GUSTAFSON, OD
TAM ANH HA, OD
HUONG HA, OD
STEPHEN HAKIMI, OD
GEORGE HALL, OD
MARY HAMIL, OD
GLENN HAMMACK, OD
ANN HAN, OD
SAMUEL HANLON, OD
CHRISTINE HARDEN, OD
MERLYN HARGER, OD
MARK HARRIS, OD
KEVIN HARRISON, OD
NANCY HARRISON, OD
J HARRIS-SZABO, OD
PEGGY HART, OD
PAUL HARTER, OD
SHEILA HARTIS, OD
ROBERT HAWS, OD
LINDA HAYES, OD
BARUN HAZRA, OD
HAMIDA HEMANI, OD
AMY HENRY, OD
RALPH HERRING, OD
TAMMIE HICKS, OD
BARBARA HIGGINS, OD
KYLIE HILLIARD, OD
INGRID ANN HILLIARD, OD
STANLEY HING, OD
VIET HO, OD
NICK HO, OD
VIVIAN HOANG, OD
NHAN HOANG, OD
QUYEN HOANG, OD
KEVIN HOANG, OD
VINH-LINH HOANG, OD
YEN-LINH HOANG, OD
GUY HODGSON, OD
BRUCE HOFF, OD
AMELIA HOLBROOK, OD

MAX HOLLAND, OD
CHARLES HOLLAS, OD
EDITH HOLLENBERG, OD
MARCUS HOOD, OD
NICOLE HOOPER, OD
DESIREE HOPPING, OD
RONALD HOPPING, OD
JOCELYN HORISZNY, OD
KARL HORMANN, OD
JESSICA HORNE, OD
ROBERT HOUDEK, OD
LEE ANN HOVEN, OD
CHIAHUNG HSU, OD
LING HUANG, OD
LI-FANG HUNG, OD
AMANDA HUNT, OD
ATIYA HUSAIN, OD
RICHARD HUTTO, OD
RODNEY HUTTO, OD
RHONDA HUTTON, OD
ASHLEY HUYNH, OD
MISA HUYNH, OD
JENNY HUYNH, OD
THANH HUYNH, OD
VAN HUYNH, OD
JERRY HYDER, OD
EVERETT HYMAN, OD
SIDNEY IMPERIAL, OD
DOUGLAS INNS, OD
ARIF IQBAL, OD
THOMAS ISZARD, OD
JULIE JACKSON, OD
WILLIAM JACKSON, OD
DAVID JACOBSON, OD
RONALD JACOBSON, OD
ANDREW JAMES, OD
JOSEPH JANES, OD
NINA JANNETTI, OD
LISA JANUSKEY, OD
SAMUEL JARVIS, OD
DONNA JASZKOWSKI, OD
DANIEL JEE, OD
YVONNE JENKINS, OD
SIMEEN JHAVER, OD
DENNY JOE, OD
LUDIAMMA JOHN, OD
MINI JOHN, OD
CYNTHIA JOHNSON, OD
LEIGH JOINES, OD
LORI JORDAN, OD
RANDALL JOSE, OD
JIMMY JOSEPH, OD
NELSON JUAREZ, OD
ALICE KACHINSKI, OD
DIPAK KALANI, OD
RAVINDRA KANKARIA, OD
KEVIN KATZ, OD
GEORGE KAUFMAN, OD
CONRAD KELLY, OD
STEPHEN KELSEY, OD
ROBERT KEMP, OD
JARED KENYAN, OD
TONYA KETCHAM, OD

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KATHRYN KEYZER, OD
LIAQAT KHALFE, OD
SHABANA KHAN, OD
LINH KHONG, OD
KENTARO KIKUCHI, OD
SOYUNG KIM, OD
YONGSON KIM, OD
ANNA HYEJA KIM, OD
GINA KIM, OD
ORVIL KIMBALL, OD
DANIEL KLAFF, OD
MARK KLAFF, OD
MURRAY KLAFF, OD
MILETE KLINKERMAN, OD
ELAINE KMIEC, OD
LEROY KNEKOW, OD
CASSANDRA KNIGHT, OD
JULIANNE KNOWLES, OD
DARREN KOENIG, OD
ALLISON KOMAR, OD
JAMES KONG, OD
DEEPAK KOTECHA, OD
OLGA KOTLYAR, OD
BRUCE KRAWIECKI, OD
RONNI KRUGER, OD
BRUCE KRUTSINGER, OD
GARY KUBENA, OD
HELEN KUO, OD
MARGARET KWAN, OD
JOHN KWAPICK, OD
CLAUDIO LAGUNAS, OD
GRISEL LAGUNAS, OD
STEVEN LAI, OD
SEAN LAM, OD
MICHELLE LAMB, OD
KIMBERLY LAMBREGHTS, OD
LEWIS LANDSMAN, OD
LINH LE, OD
ANNE LE, OD
LISA LE, OD
KRISTYNA LE, OD
MICHAEL LE, OD
NGOC-NGA LE, OD
HIEU LE, OD
HIEU LE, OD
MARK LE, OD
KRISTIN LE, OD
ROBERT LE, OD
NORMAN LEACH, OD
FRANK LEE, OD
AIMEE LEE, OD
EMMA LEE, OD
JOSHUA LEIF, OD
NATHAN LERNER, OD
MICHELLE LEVIN, OD
POUN LIN TA KOON, OD
GEORGE LIPSHY, OD
JILL LIU, OD
VALERIE LOE, OD
DAVID LOPEZ, OD
FRANCIS LOVE, OD
LOUIS LOVE, OD
ALLISON LOW, OD

HOI LUONG, OD
TERESA LUTZ, OD
JULIE LY, OD
MICHELLE MAI, OD
LIEN MAI, OD
SAIRAH MALIK, OD
RUSSELL MALIK, OD
WAYNE MALTZ, OD
ANDREW MANN, OD
SANDRA MANN, OD
JOHN MANN, OD
RUTH MANNY, OD
FRANCIS MANUEL, OD
RHONDA MANUEL, OD
EVAN MAPES, OD
ANGELA MARCACCIO, OD
KHALIL MARCHA, OD
TESSA MARKUS, OD
THOMAS MARKUS, OD
ANGELA MARQUEZ, OD
DANICA MARRELLI, OD
SCOTT MARTIN, OD
SAM MARTIN, OD
LAUREL MASIN, OD
BERNARD MASLOVITZ, OD
BRADLY MATHEW, OD
BRONWEN MATHIS, OD
LINDA MATOCHA, OD
RAY MATOCHA, OD
LISA MAXWELL, OD
KEVIN MCCULLOUGH, OD
ALICE MCDAID, OD
STEPHEN MEANS, OD
RITA MEDRANO, OD
FARESH MEHTA, OD
MELANIE MELANCON, OD
MICHELLE MELCHOR, OD
MIKE MENDOZA, OD
NADIA MIANI-SLEDGE, OD
LYNNE MICHELS, OD
OUIDA MIDDLETON, OD
JAMES MIKKELSEN, OD
NATALIE MILAM, OD
STUART MILLER, OD
WILLIAM MILLER, OD
JERRAD MILLS, OD
ANGELA MINAVI, OD
HEMA MISTRY, OD
CICELY MITCHELL, OD
BRENT MIXON, OD
SWATI MODI, OD
MELISSA MOELLER, OD
TRAVIS MOFFATT, OD
CHAD MOFFITT, OD
AZMINA MOMIN, OD
ROLAND MONTEMAYOR, OD
MARY MONTEMAYOR-MORALES, OD
KATHLEEN MOORE, OD
SYLVIA MORALES, OD
MATTHEW MORELLO, OD
CHANTAY MORRIS, OD
JOSHUA MORRISON, OD
DAVID MORROW, OD

EARLINE MORSE, OD
REBECCA MOSER, OD
SUSAN MOSS, OD
KRISTEN MOSTELLO, OD
SOLO MOTANYA, OD
WILLIAM MOYER, OD
THOMAS MUECKE, OD
SHAWN MULDOON, OD
CLARA MUNOZ, OD
MERIDITH MUSGROVE, OD
SEEMA NANDA, OD
MOES NASSER, OD
MICHAEL NELL, OD
NILE NEWELL, OD
BEVERLY NEWHOUSE, OD
TIA NEWSOM-BUDDE, OD
KOYOH NGALA, OD
DIANA NGO, OD
KIM NGUYEN, OD
HANG NGUYEN, OD
THAO NGUYEN, OD
THUY NGUYEN, OD
DUYEN NGUYEN, OD
GIAO NGUYEN, OD
JIMMY NGUYEN, OD
THAI NGUYEN, OD
TRACEY NGUYEN, OD
ANH NGUYEN, OD
ANN NGUYEN, OD
DAVID NGUYEN, OD
LINDA NGUYEN, OD
LY NGUYEN, OD
THANH LOAN NGUYEN, OD
TIN NGUYEN, OD
SCHUBERT-THUY NGUYEN, OD
PHUONG NGUYEN, OD
LINH NGUYEN, OD
QUANG NGUYEN, OD
HUE NGUYEN, OD
CATHY NGUYEN, OD
LAN NGUYEN, OD
CHARLIE NGUYEN, OD
HANH NGUYEN, OD
ERIC NGUYEN, OD
JOSEPH NGUYEN, OD
MONICA NGUYEN, OD
MADELINE NGUYEN, OD
TU NGUYEN, OD
MINDY NGUYEN, OD
BAO-TRAN NGUYEN, OD
LINDA NGUYEN, OD
ANTONY NGUYEN, OD
ROBERT NGUYEN, OD
KIM NGUYEN, OD
GARY NGUYEN, OD
ALICE NGUYEN, OD
KIM NGUYEN, OD
TRUC NGUYEN, OD
HOA NGUYEN, OD
VU NGUYEN, OD
CHRISTOPHER-LOI NGUYEN, OD
JACQUELINE NGUYEN, OD
JOSEPH NGUYEN, OD

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KAYLYN NGUYEN, OD
LONG NGUYEN, OD
PHUONG-ANH NGUYEN, OD
THU NGUYEN, OD
SHOSHANA NOCK, OD
DONALD NORCINI, OD
NICOLE NOSKA, OD
IKAEHOTA NYOWHEOMA, OD
SPENCER OBIE, OD
LAURIE O'BRIEN, OD
CAROLINE ODETTE, OD
JAMES OEVERMANN, OD
FARIS OHAN, OD
DWIGHT OLIVER, OD
MAXWELL OLUMBA, OD
DANA ONDRIAS, OD
JOHN O'NEILL, OD
CATHERINE ONG, OD
KATE OPARA, OD
REAGAN O'REAR, OD
LINDSAY OWEN, OD
BRADLEY OWENS, OD
HERNAN PALERMO, OD
SHIRLEY PANNAPARA, OD
ALLAN PANZER, OD
KATRINA PARKER, OD
SANDRA PARKS, OD
ANASTAS PASS, OD
LLOYD PATE, OD
NISHA PATEL, OD
TANVI PATEL, OD
ALPA PATEL, OD
JITESH PATEL, OD
DHVANI PATEL, OD
RUBY PATEL, OD
BINDU PATEL, OD
HINA PATEL, OD
CAREY PATRICK, OD
LORAIN PAYAN, OD
TERESA PECK, OD
STIG PEDERSEN, OD
JOANN PEEKS, OD
YOLYETT PENA, OD
JEFFREY PENN, OD
LAURA PERDUE, OD
JOHN PEREZ, OD
ANA PEREZ-FRANCO, OD
DAVID PERRIGIN, OD
JUDITH PERRIGIN, OD
ROBERT PETERSON, OD
JAMES PETERSON, OD
NGHIEM PHAM, OD
TU PHAM, OD
DANA PHAM, OD
ROSA PHAM, OD
JULIE PHAM, OD
DOAN-ANH (DONNA PHAM), OD
KATIE PHAM, OD
VON PHAM, OD
NINH PHAM, OD
MICHAEL PHAM, OD
VICKI PHAM, OD
ELAINE PHAM, OD

QUYNH THI PHAN, OD
JULIETT PHAN, OD
HAOTAM PHAN, OD
MARCUS PICCOLO, OD
MARK PICKERING, OD
SHERYL PICKERING, OD
MICHAEL PICKERING, OD
SHARON PINION, OD
RITA PISARSKI, OD
TIMOTHY PLANTY, OD
WILLIAM POPE, OD
EMILY PORIER, OD
MARY PORTELE, OD
FRANKLIN PORTER, OD
JUAN PRATI, OD
JAY PRAVDA, OD
PAUL PROSKE, OD
MARK PROVENZANO, OD
GITA PULLEY, OD
ROSANNA PUN, OD
CHAN QUACH, OD
RAUL QUINTANILLA, OD
SAM QUINTERO, OD
MICHELE QUINTERO, OD
TERESA RAMIREZ, OD
LOUIS RAMON, OD
MICHAEL READE, OD
NELSON REBER, OD
RICHARD REDFIELD, OD
MASSALA REFFELL, OD
RANDALL REICHLE, OD
ROBERT REID, OD
AARON RENEAU, OD
LINDA RHODES, OD
MARK RICHARDSON, OD
WILLIAM RICHEY, OD
RAYMOND RING, OD
MARK RINKOFF, OD
RACHEL RIPPEY, OD
AUREA RIVERA, OD
NORMA ROBINSON, OD
MELVILLE ROCKOFF, OD
ALBERT ROMANO, OD
GERALD ROMANO, OD
WALTER ROSEN, OD
JEROME ROSNER, OD
JOY ROSNER, OD
CARL ROSS, OD
RACHEL LEIGH RUMP, OD
J. RUSSELL, OD
KIM RUSSELL, OD
SCOTT RYF, OD
RONALD SACHS, OD
HODA SADIGHI, OD
NEDA SADIGHI, OD
ROBERT SALCHAK, OD
AMADOR SANCHEZ, OD
CARLOS SANTOS, OD
MARK SAVASTANA, OD
DAVID SCHAUB, OD
ROBERT SCHUCHERT, OD
RICHARD SCOTT, OD
VIOLA SCOTT, OD

PADHMALATHA SEGU, OD
BHAGYA SEGU, OD
SIMONA SELEGEAN, OD
AMIT SHAH, OD
RITA SHAH, OD
ROULA SHAHIN, OD
SUSAN SHAHRIARI, OD
BRIAN SHANDLEY, OD
SAM SHANDLEY, OD
BRIDGITTE SHEN, OD
CHRISTINE SHUCHART, OD
LANNY SHULMAN, OD
NADIA SIDDIQI, OD
MICHAEL SIEGEL, OD
CHRISTOPHER SIMANK, OD
MARTHA SIMPSON, OD
WM. SIMPSON, OD
ROLAND SKELTON, OD
CYNTHIA SLATON, OD
CAROL SLETTE, OD
EARL SMITH, OD
CAMERON SMITH, OD
HUGH SMITH, OD
ELIZABETH SMITH, OD
PERRY SMITH, OD
PAUL SMITHWICK, OD
STEPHEN SMOLINS, OD
JEFFREY SNYDER, OD
MATTHEW SNYDER, OD
GARY SOIFER, OD
PATRICIA SOLAR, OD
PERRY SOLI, OD
MELISSA SOMMERS, OD
STACY SONIK, OD
MICHAEL SORENSEN, OD
FRANCIS SORTIN, OD
ALBERT SPERRY, OD
LARRY SPITZBERG, OD
BETH SPRAGINS, OD
IVAN SRUT, OD
JUNE STANSKY, OD
JAMES STARLING, OD
GEORGE STEED, OD
NIDA STEINER, OD
GREGORY STEPHENS, OD
MARTHA STERN, OD
CHARLES STOCKWELL, OD
TODD STOLZBERG, OD
JANE STRONG, OD
HARVEY STURDEVANT, OD
MICHAEL SUBER, OD
STEVEN SUGAR, OD
VISSETT SUN, OD
TRICIA SUNG, OD
NHAN TA, OD
PHYLLIS TANG-WING, OD
JOHN TAVARES, OD
TANAKA TAYLOR, OD
M. TEAS, OD
KIMBERLY THAM, OD
SHARON THAN, OD
DEBORAH THOMAS, OD
LISA THOMAS, OD

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MALLORY THORNTON, OD
SRIYUTA THOTA, OD
KHANH TIEN, OD
ANDREW TO, OD
HOA TO, OD
KIM TO, OD
STEPHANIE TOM, OD
DAN TOM, OD
JOCELYN TON, OD
ANTONIO TORRES, OD
SUSAN TOTTE, OD
LIN TOU, OD
MICHAEL TOUPS, OD
MARILYN TOWNSEND, OD
HIEN TRAN, OD
MAIANH TRAN, OD
ANHTHUY TRAN, OD
HUY TRAN, OD
CHRIS TRAN, OD
THAI-LAN TRAN, OD
HANG TRAN, OD
TAM TRAN, OD
YEN TRAN, OD
OANH TRAN, OD
HUE TRAN, OD
UYEN TRAN, OD
ANH TRAN, OD
LINDA TRAN, OD
MELISSA TRAN, OD
CHINH TRAN, OD
CUONG TRAN, OD
JENNY TRAN, OD
THUY TRAN, OD
TRANG TRAN, OD
KIM TRAN, OD
LAM TRAN, OD
TUYEN TRAN, OD
ALAIN TRAN, OD
HARRY TRAN, OD
KIM TRAN, OD
ANH TRINH, OD
MIGUEL TRIPPUTI, OD
DEANNA TRUITT, OD
THANH TRUONG, OD
VAN TRUONG, OD
TRANG TRUONG, OD
I-CHUNG TSAO, OD
CINDY TU, OD
CHRISTINE TYLER, OD
MICHAEL UKWADE, OD
RICHARD ULLMAN, OD
DUANE ULLMAN, OD
CONNIE UNG, OD
EHSIA UNG, OD
ANH-HONG UNGER, OD
SANGITA VADAPALLI, OD
SARAH VALLERY, OD
JAMES VARNELL, OD
ANTONIO VASQUEZ, OD
AMANDA VIGIL, OD
BETTY VINH, OD
SHIROZ VIRANI, OD
RYAN VO, OD

DENISE VO, OD
VICKI VO, OD
EDWARD VORSTER, OD
ANN VOSS, OD
WARREN WACHER, OD
TROY WAGNER, OD
KIMBERLY WALKER, OD
NICKI WALL, OD
CROSBY WALLACE, OD
JAMES WALTERS, OD
I-PU WANG, OD
KAREN WANG, OD
CHRISTY WARFORD, OD
WILLIAM WATSON, OD
DAVID WAY, OD
ELISSA WEDEMEYER, OD
ERIC WELLINGTON, OD
ARIC WELTON, OD
JANICE WENSVEEN, OD
CATHERINE WEST, OD
MARK LARKIN WEST, OD
JOE WHEAT, OD
BRUCE WICK, OD
SUZANNE WICKUM, OD
LARRY WILKINSON, OD
JOHN WILLIAMS, OD
RAVAUGHN WILLIAMS, OD
JAMES WILLIAMS, OD
VERNESSA WILLIAMSON, OD
MAURICE WILSON, OD
JEFFREY WINEINGER, OD
DOROTHY WIN-HALL, OD
JAMES WINTER, OD
IRVING WISHNOW, OD
DANIEL WISHNOW, OD
WILLIAM WOESSNER, OD
VICTORIA WOLAK, OD
JUNE WON, OD
JONATHAN WONG, OD
GINA WONG, OD
LAURENCE WONG, OD
DEBORAH WONG, OD
LISA WOO, OD
STANLEY WOO, OD
GENE WOO, OD
JOHN WRIGHT, OD
KATE YANG, OD
KIT YANG, OD
TOMMY CHUNG YEE, OD
LINH YEE-YOUNG, OD
SIMON YEUNG, OD
JULIE YI, OD
MONA YOUNES, OD
GEORGE ZAIBAQ, OD
PATTI ZEIN-ELDIN, OD
DANA ZISKROUT, OD
LAURA ZIVLEY, OD

Disaster

Emergency Management
Fire Department, FEMA, etc
request for eye services sent
to Disaster Response Team
Coordinator

- Houston Ophthalmological Society Eye Disaster Team member
- Prevent Blindness Disaster Team member (PBT Eye Vans)
- University of Houston College of Optometry Disaster Team member (Mobile Eye Institute Van)

- PBT staff emails/calls Eye Care Providers (*use notification template to communicate with volunteers*) (Ophthalmologists/optometrists/screeners)
- Set up service schedule for disaster site
- Notify Eye Care providers to staff planned hospital triage sites for victims

Eye service area set up

1. Delivery/set up of eye exam equipment at disaster site by Mobile Eye Institute /Eye Van if used, or by disaster team members if portable equipment is used
2. **Check in eye medications/supplies brought by Emergency Medical Services at disaster site**
3. Set up sterilization areas/ stock medical and office supplies
4. Set up signs, chairs/tables:
 - a. Central command area
 - b. Patient and volunteer check-in areas
 - c. Patient waiting area
 - d. Exam area supplied with medical template exam forms and sterilization, gloves/masks
 - e. Checkout/triage area
 - f. Medical records archives
5. Sign in volunteers, provide with identification badges