

**STATE BOARD OF OPTOMETRY**

2450 DEL PASO ROAD, SUITE 105, SACRAMENTO, CA 95834  
P (916) 575-7170 F (916) 575-7292 www.optometry .ca.gov



### Continuing Education Course Approval Checklist

Title:

Provider Name:

☒ Completed Application

Open to all Optometrists? ☒ Yes ☐ No

Maintain Record Agreement? ☒ Yes ☐ No

☒ Correct Application Fee

☒ Detailed Course Summary

☒ Detailed Course Outline

☒ PowerPoint and/or other Presentation Materials

☐ Advertising (optional)

☒ CV for EACH Course Instructor

☒ License Verification for Each Course Instructor

Disciplinary History? ☐ Yes ☒ No



OPTOMETRY

## STATE BOARD OF OPTOMETRY

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## CONTINUING EDUCATION COURSE APPROVAL APPLICATION

### \$50 Mandatory Fee

Pursuant to California Code of Regulations (CCR) § 1536, the Board will approve continuing education (CE) courses after receiving the applicable fee, the requested information below and it has been determined that the course meets criteria specified in CCR § 1536(g).

In addition to the information requested below, please attach a copy of the course schedule, a detailed course outline and presentation materials (e.g., PowerPoint presentation). Applications must be submitted 45 days prior to the course presentation date.

**Please type or print clearly.**

|   |  |
|---|--|
| <b>Course Title</b><br><u>International Ophthalmology</u> | <b>Course Presentation Date</b><br><div style="border: 1px solid black; padding: 2px; display: inline-block;"> 05/03/2017 </div> |
|---|--|

### Course Provider Contact Information

|   |  |   |
|---|--|---|
| <b>Provider Name</b><br><div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"><u>Erin</u><br/>(First)</div> <div style="text-align: center;"><u>Lally</u><br/>(Last)</div> <div style="text-align: center;"><u>B</u><br/>(Middle)</div> </div> |  |   |
| <b>Provider Mailing Address</b><br><div style="margin-top: 10px;"> Street <u>2110 FOREST AVE, STE B</u> City <u>SAN JOSE</u> State <u>CA</u> Zip <u>95128</u> </div>  |  |   |
| <b>Provider Email Address</b> <u>jenny@careyvision.com</u>  |  |   |
| Will the proposed course be open to all California licensed optometrists?   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |
| Do you agree to maintain and furnish to the Board and/or attending licensee such records of course content and attendance as the Board requires, for a period of at least three years from the date of course presentation?   |  | <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO |

### Course Instructor Information

Please provide the information below and attach the curriculum vitae for each instructor or lecturer involved in the course. If there are more instructors in the course, please provide the requested information on a separate sheet of paper.

|  |  |  |
|--|--|--|
| <b>Instructor Name</b><br><div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"><u>Erin</u><br/>(First)</div> <div style="text-align: center;"><u>Lally</u><br/>(Last)</div> <div style="text-align: center;"><u>B.</u><br/>(Middle)</div> </div> |  |  |
| <b>License Number</b> <u>A143148</u>   | <b>License Type</b> <u>MD</u>                      |  |
| <b>Phone Number</b> <u>(408) 295-3433</u>  | <b>Email Address</b> <u>elally@careyvision.com</u> |  |

**I declare under penalty of perjury under the laws of the State of California that all the information submitted on this form and on any accompanying attachments submitted is true and correct.**

\_\_\_\_\_  
Signature of Course Provider

\_\_\_\_\_  
Date

### **Brief Course Summary- International Ophthalmology**

This course is about the number of people who are visually impaired or have low vision around the world. Dr. Lally will discuss the causes of visual impairment/blindness and how it can be treated. The lecture will cover signs, symptoms, treatment, technique, and studies.

#### **Outline:**

- Statistics
- Causes of visual impairment
- WHO Global Action Plan
- Impact of Cataract Surgery / Visionary Study (Vietnam)
- Cataract Impact Study
- RUIT MSICS Technique
- Himalayan Cataract Project (HCP)
- Jimma , Ethiopia
- Cataract Surgery in rural areas
- Tenwek Hospital (Kenya)
- Pathology
- Post-Ops
- References

**Start Time:** 6pm

**End Time:** 9pm

**Location:** Tarragon Restaurant

140 S. Murphy Avenue, Sunnyvale CA 94086



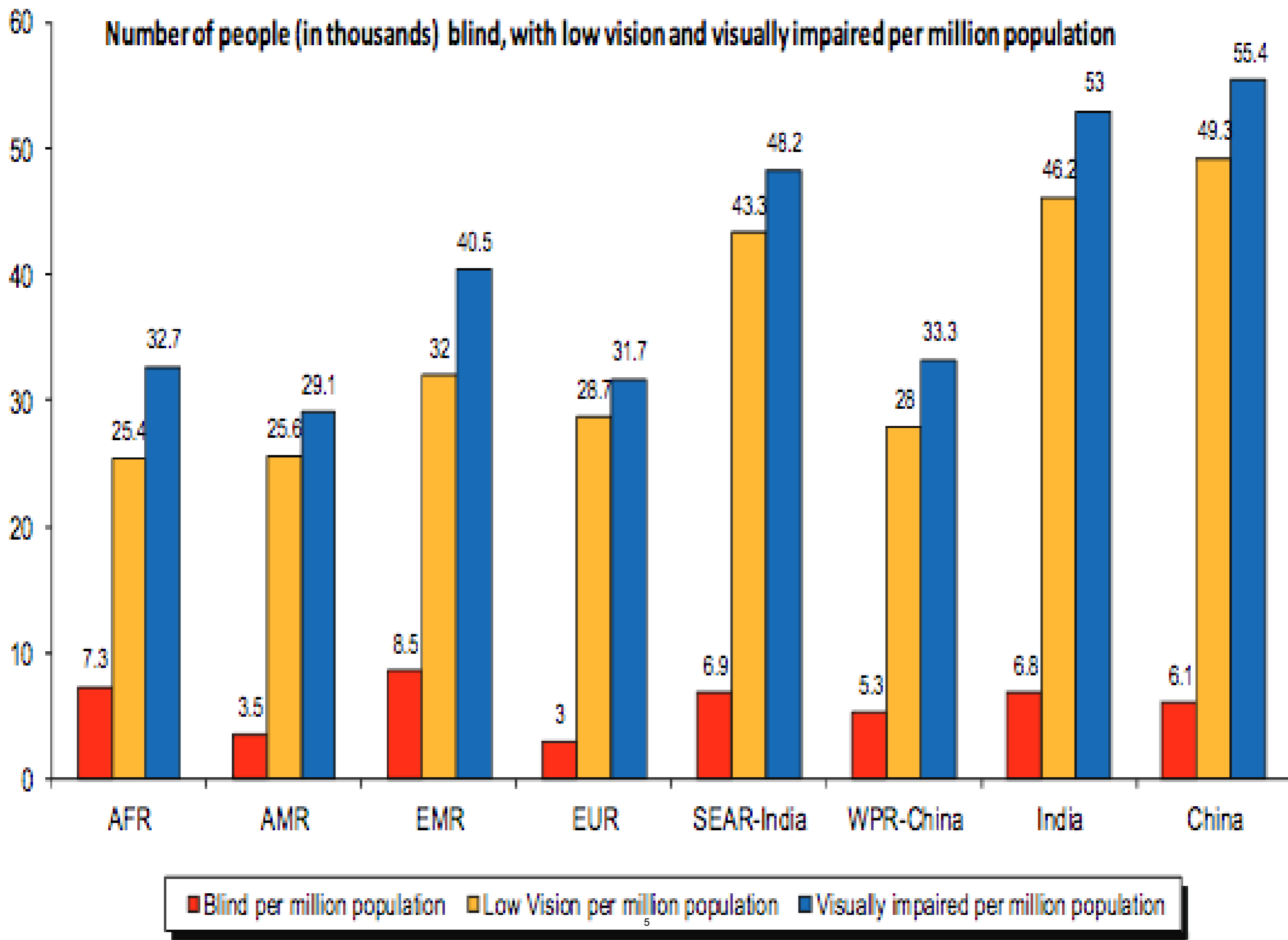
# **INTERNATIONAL OPHTHALMOLOGY**

**Erin B. Lally MD  
May 3, 2017**

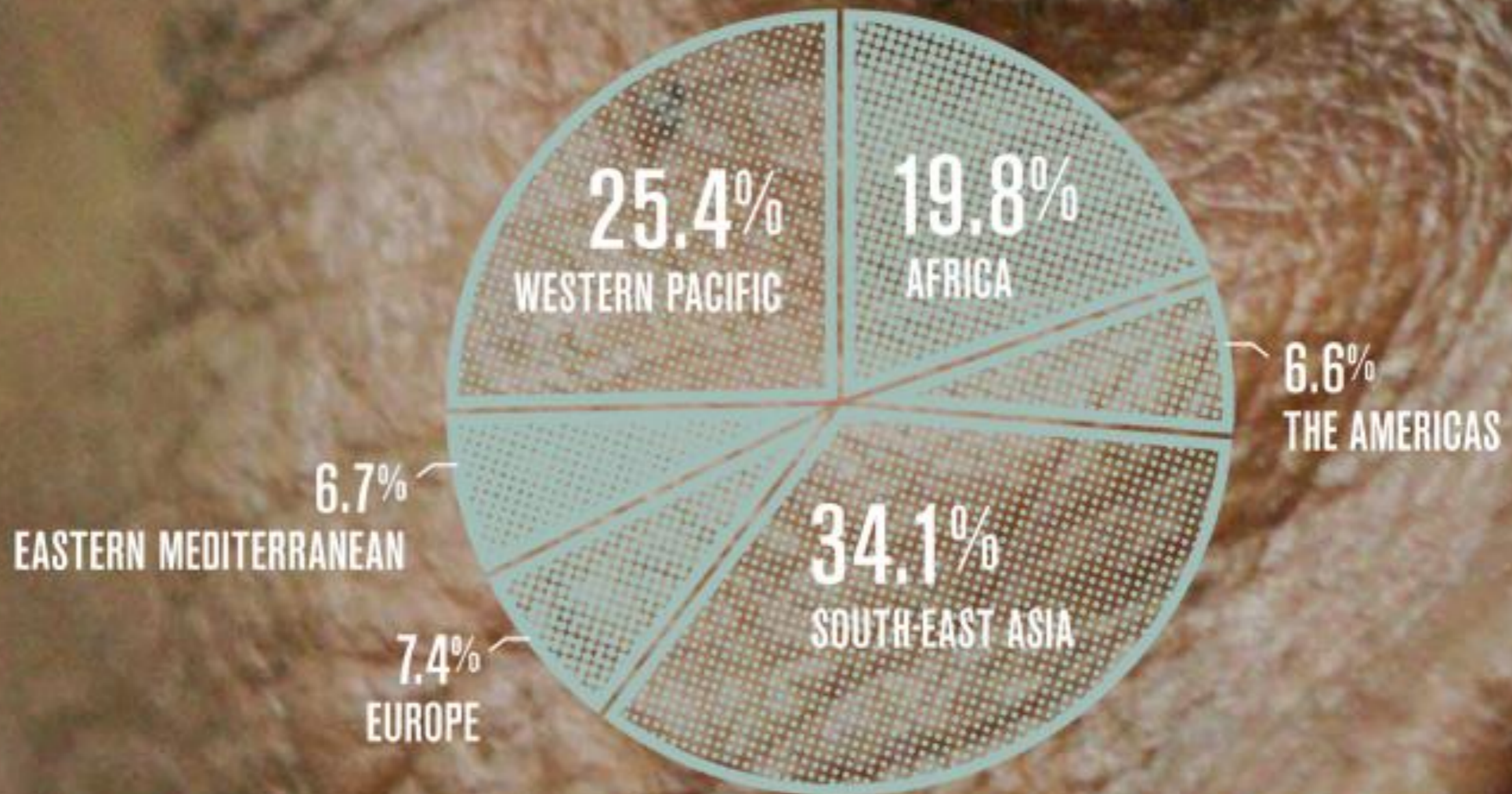
# STATISTICS

- Worldwide, there are:
  - 285 million people with VA <20/60
    - Over 7% of these patients are blind
    - 82% of blind patients are 50+ years old

Number of people (in thousands) blind, with low vision and visually impaired per million population

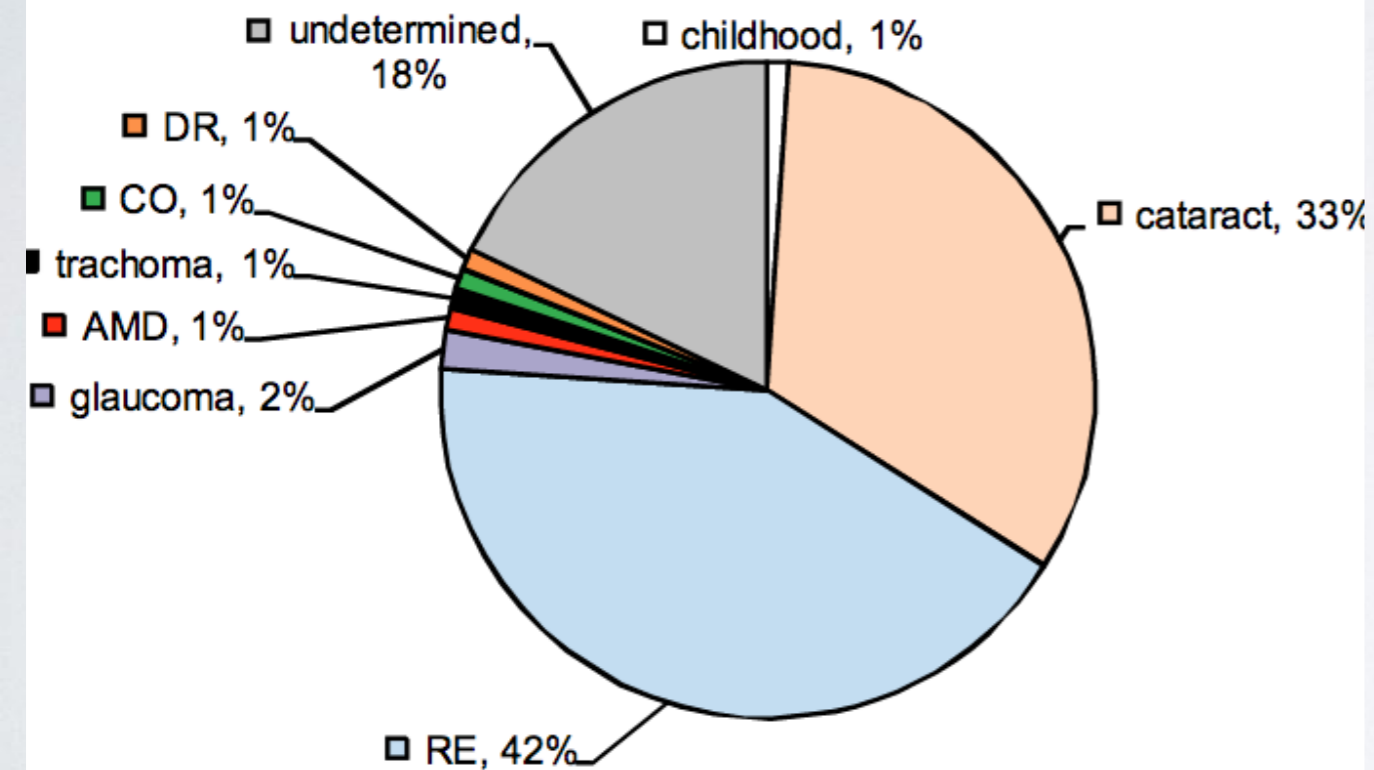


# GEOGRAPHIC DISTRIBUTION OF GLOBAL BLINDNESS

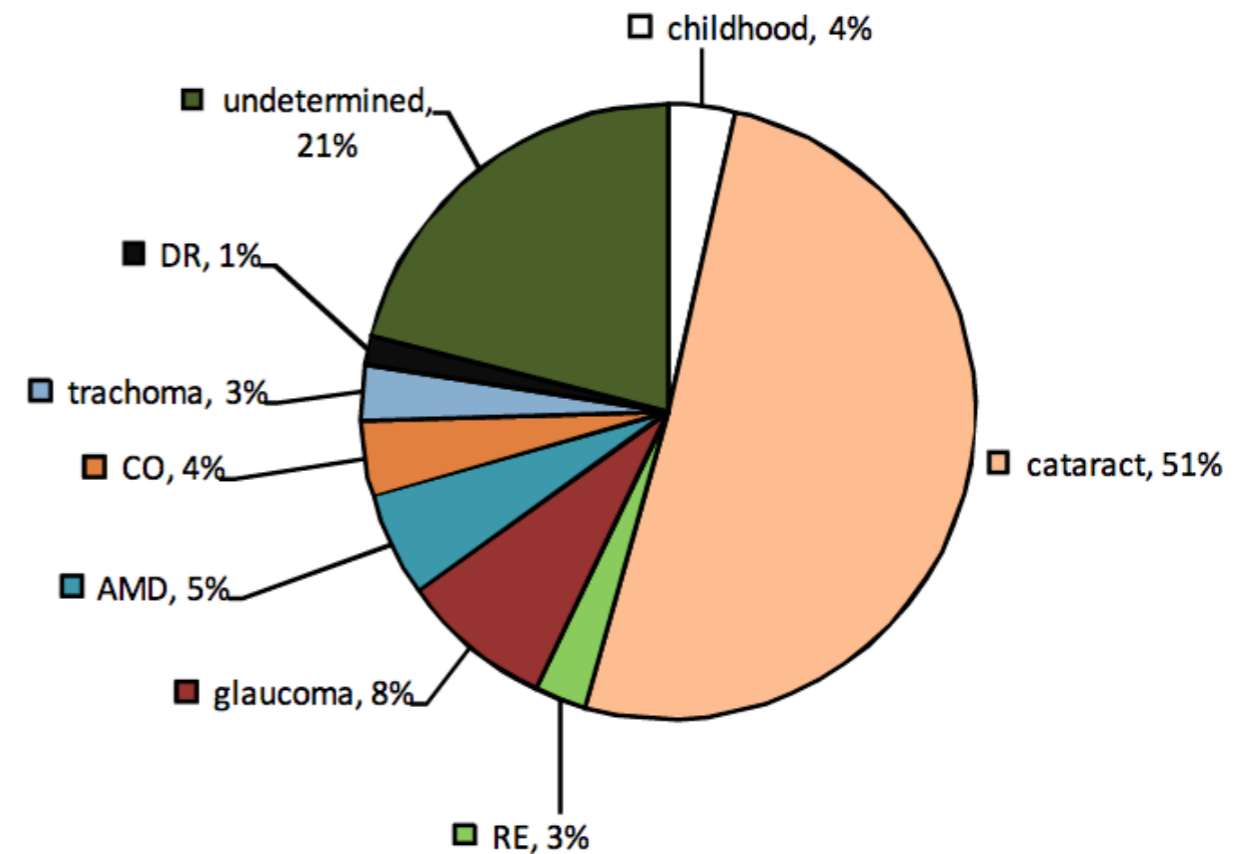


# CAUSES OF VISUAL IMPAIRMENT AND BLINDNESS

Global causes of Visual Impairment, inclusive of blindness, as percentage



Global causes of blindness as percentage of global blindness in 2010.



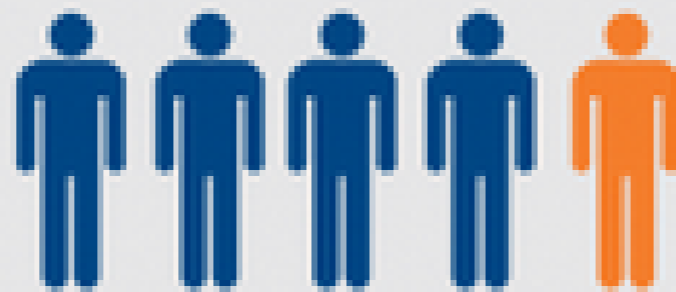
# THE FACTS

**285**

million people  
are visually  
impaired

**4/5**


cases are  
avoidable



**90%**

Of the world's  
visually impaired  
people live in  
developing  
countries





**“It was just accepted that you grew old, your hair turned white, your eyes turned white, and then you died.”**

**–Geoff Tabin, co-founder of Himalayan Cataract Project**

# WHO GLOBAL ACTION PLAN

- GOAL:
  - 25% Reduction of avoidable blindness and visual impairment by 2019
- PLAN:
  - 1. Collect evidence
  - 2. Train more doctors, nurses and optometrists
  - 3. Provide comprehensive eye care services

# IMPACT OF TREATING BLINDNESS

- Easing poverty
- Improves economy, equality, skill and development of a country
- Reduction of financial and social burden

# IMPACT OF CATARACT SURGERY

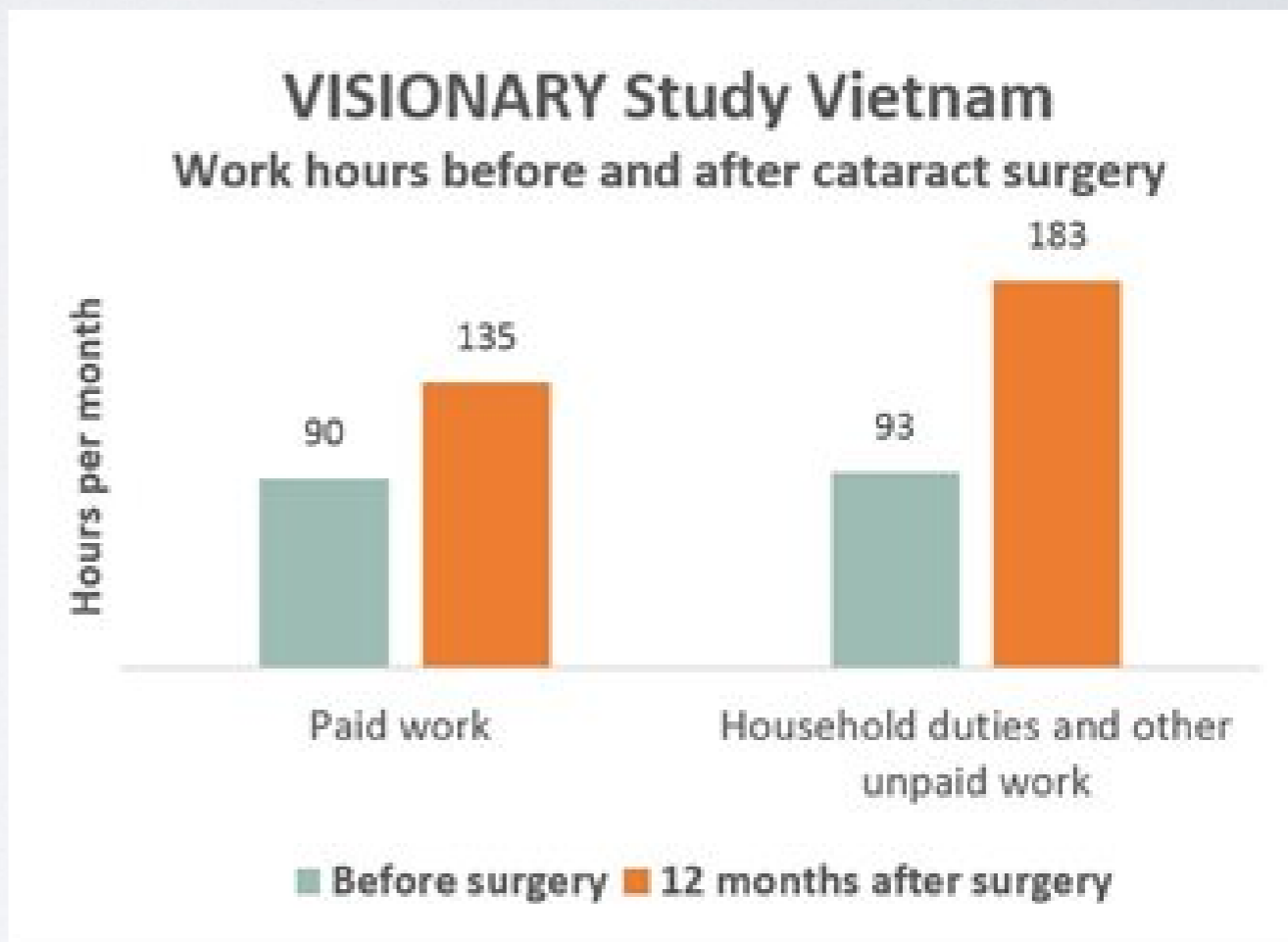
- Cataract surgery is among the most cost-effective of health interventions
- Quality of life and economic benefits of restoring sight far outweigh the treatment cost

# VISIONARY STUDY

- Prospective investigational study of psychological outcomes following cataract surgery in Vietnam
- Measured people's wellbeing while affected by cataract blindness and again, 12 months after cataract surgery

# POST-SURGICAL CHANGES

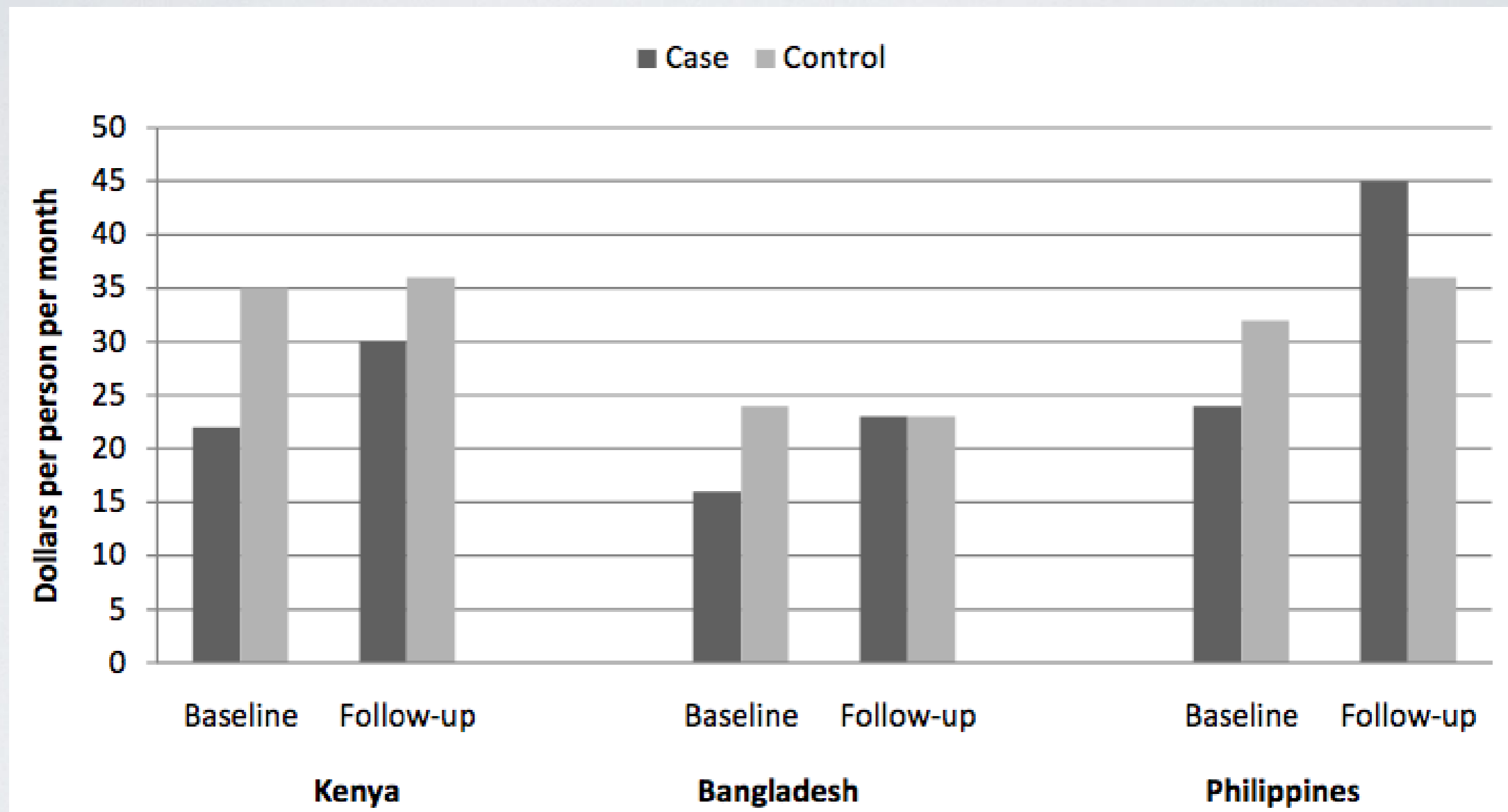
- Increase of 44.5 hours of paid work per month
- Increase of 89.5 hours of unpaid (household duties) work per month
- 17% reduction of “hardship”
- 7% reduction in catastrophic health expenditure



# CATARACT IMPACT STUDY

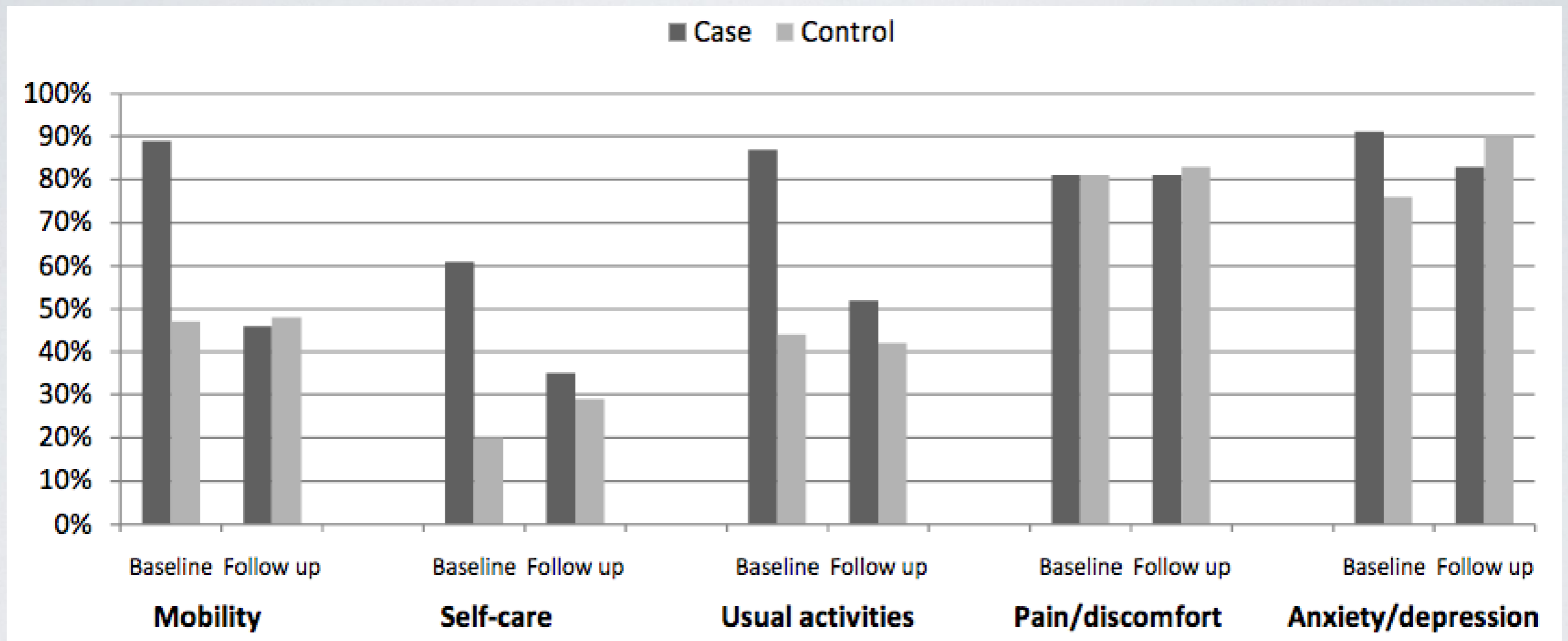
- Longitudinal study to assess impact of CE on poverty and quality of life in Kenya, Bangladesh and the Philippines
- Demonstrates the benefits of restoring sight last for the long-term
- Sustained improvements in financial gain and quality of life through 6 years follow-up s/p CE

# CATARACT IMPACT STUDY



Individual income before and after cataract surgery

# CATARACT IMPACT STUDY



Rate of hardship/daily struggles



**Positive social and economic benefits to household members**

*"After surgery I completely got back my eyesight but because of my old age cannot do heavy work. But I can help in the household chores, so my family can concentrate on earning money."*

*"The family are happy because we are able to attend other duties now that she is independent. We are able to go about our duties without worry or hurrying back to the house to attend to her."*

## **Participation in social events**



*"After surgery I was very happy because I could visit my friends, and attend village meetings, bazaars and functions like weddings."*

## **Engagement in productive activities**



*"I was able to do my business again making locks and knives to sell. This helped me to get money for my family"*

# CATARACT SURGERY TECHNIQUE

- Until the early- to mid-1990's, CE was a crude operation
- Eye was filleted open and entire lens was removed
- No IOL was inserted
- Post-operative patients require, thick, aphakic glasses

# RUIT MSICS TECHNIQUE

- Developed in 1999 by Dr. Sanduk Ruit
- Dr. Sanduk Ruit:
  - Born in rural Nepal
  - Ophthalmology training in India
  - Fellowship in cataract surgery in the Netherlands and Australia

# RUIT MSICS TECHNIQUE

- Lens implants
  - Least expensive IOL on the world market cost \$200
- Ruit joins Australian ophthalmologist, Fred Hollows, to start the 1st low-cost intracular lens factory in the world (built in Kathmandu)
  - Same quality lens implant that are used in America
  - \$4 per lens

# RUIT MSICS TECHNIQUE

- In USA, average cataract surgery costs ~\$3,000
- By eliminating expensive machinery, equipment and pricy lenses, Ruit's technique reduces cost to \$20 per case

# RUIT MSICS TECHNIQUE



# MSICS QUALITY

## A Prospective Randomized Clinical Trial of Phacoemulsification vs Manual Sutureless Small-Incision Extracapsular Cataract Surgery in Nepal

SANDUK RUIT, MD, GEOFFREY TABIN, MD, DAVID CHANG, MD,  
LEENA BAJRACHARYA, MBBS, DANIEL C. KLINE, MD, WILLIAM RICHHEIMER, MD,  
MOHAN SHRESTHA, MA, AND GOVINDA PAUDYAL, MD

- MSICS is:
- 3x faster
- 10x less expensive

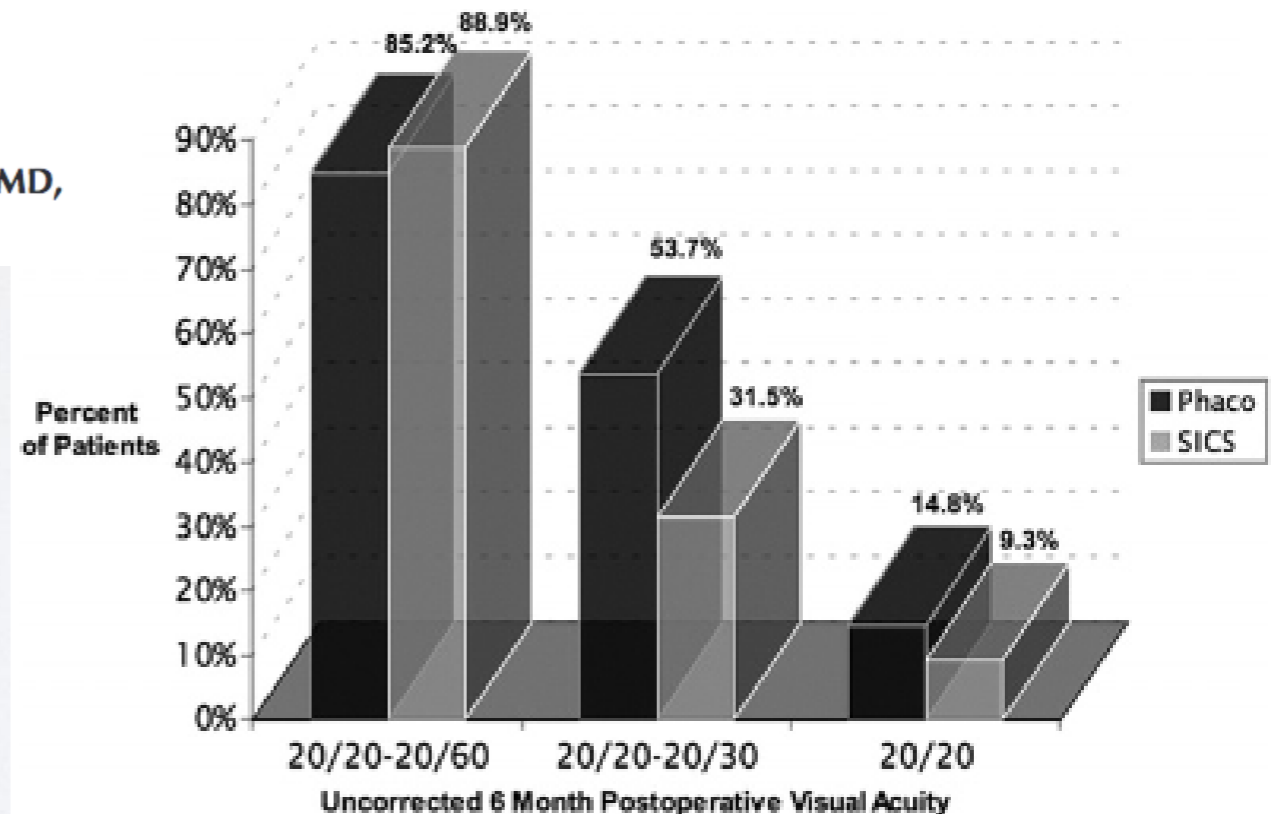


FIGURE 3. Uncorrected visual acuity (UCVA) by functional level at six months after operation. Stratified into groups with visual acuity of 20/20, better than or equal to 20/30, and better than or equal to 20/60 in the phacoemulsification group (Phaco; black) vs the manual sutureless small incision extracapsular cataract surgery (SICS; gray) group.

# HIMALAYAN CATARACT PROJECT (HCP)

- Founded in 1994 by:
  - Sanduk Ruit
  - Geoff Tabin
- GOAL: to establish sustainable eye care infrastructure in the Himalaya

# HCP MISSION

- Eradicate preventable blindness with a concurrent strategy to:
  - Provide high-quality care
  - Train local personnel
  - Establish a world-class eye care infrastructure where most needed

# HIGH-VOLUME CATARACT CAMPAIGNS


- Drs. Ruit and Tabin, along with teams of local nurses and doctors, conduct high-volume cataract campaigns
- Hundreds of people



# EDUCATION AND TRAINING

- Train local eye care teams with methodologies optimized for the developing world
- Increase the number of trained eye care specialists who can then train future eye care providers






**“We go beyond just “teaching a man to fish.” We’re teaching fleets of fishermen to cast their nets widely. And through quality, we tech them how to sell the fish.”**

**–Geoff Tabin, co-founder of Himalayan Cataract Project**

# INFRASTRUCTURE

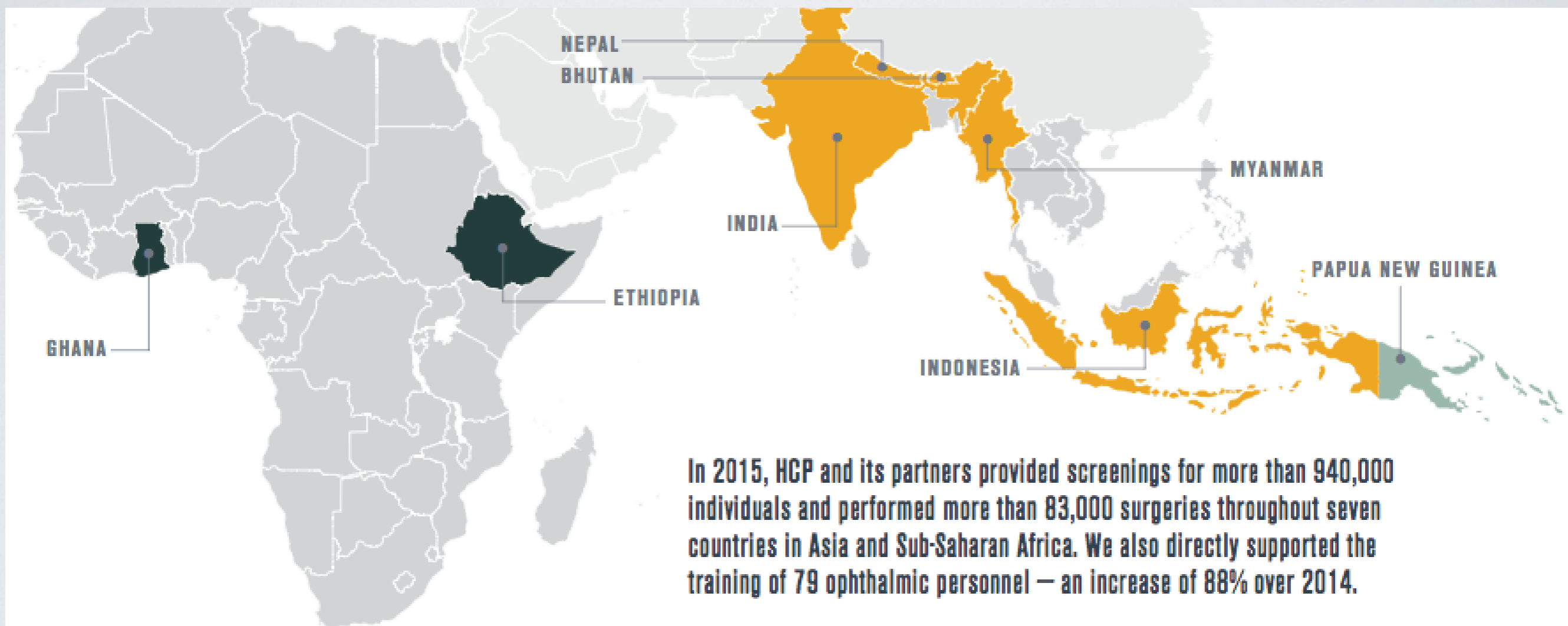
- HCP provides financial support and administrative assistance depending on the need of the region
- “Cost Recovery Model”
  - Elite of Nepal pay for their services in full
  - Provides subsidy to provide free care for the poor

A blurred background image showing a group of people, primarily women, with their hands raised in a gesture of support or agreement. One woman in the center is wearing a green headscarf. The scene appears to be outdoors with trees in the background.

**“By engaging the powerful, we are able to  
give great care for free to the powerless”**

**–Geoff Tabin, co-founder of Himalayan Cataract Project**

# HCP LOCATIONS



# HCP IMPACT

- Since 1995, HCP has performed more than 600,000 eye surgeries in the developing world
- 2015 review:
  - Screened 940,000 patients
  - Performed 83,000 surgeries
  - Trained 79 ophthalmic personnel

# JIMMA, ETHIOPIA



# JIMMA, ETHIOPIA



# JIMMA HEALTH STATISTICS

- 80% of population has no access to clear water supply
- >80% population has no toilet facility
- <5% of population exercises hand-washing
- Only 28% of children are immunized by 1st birthday





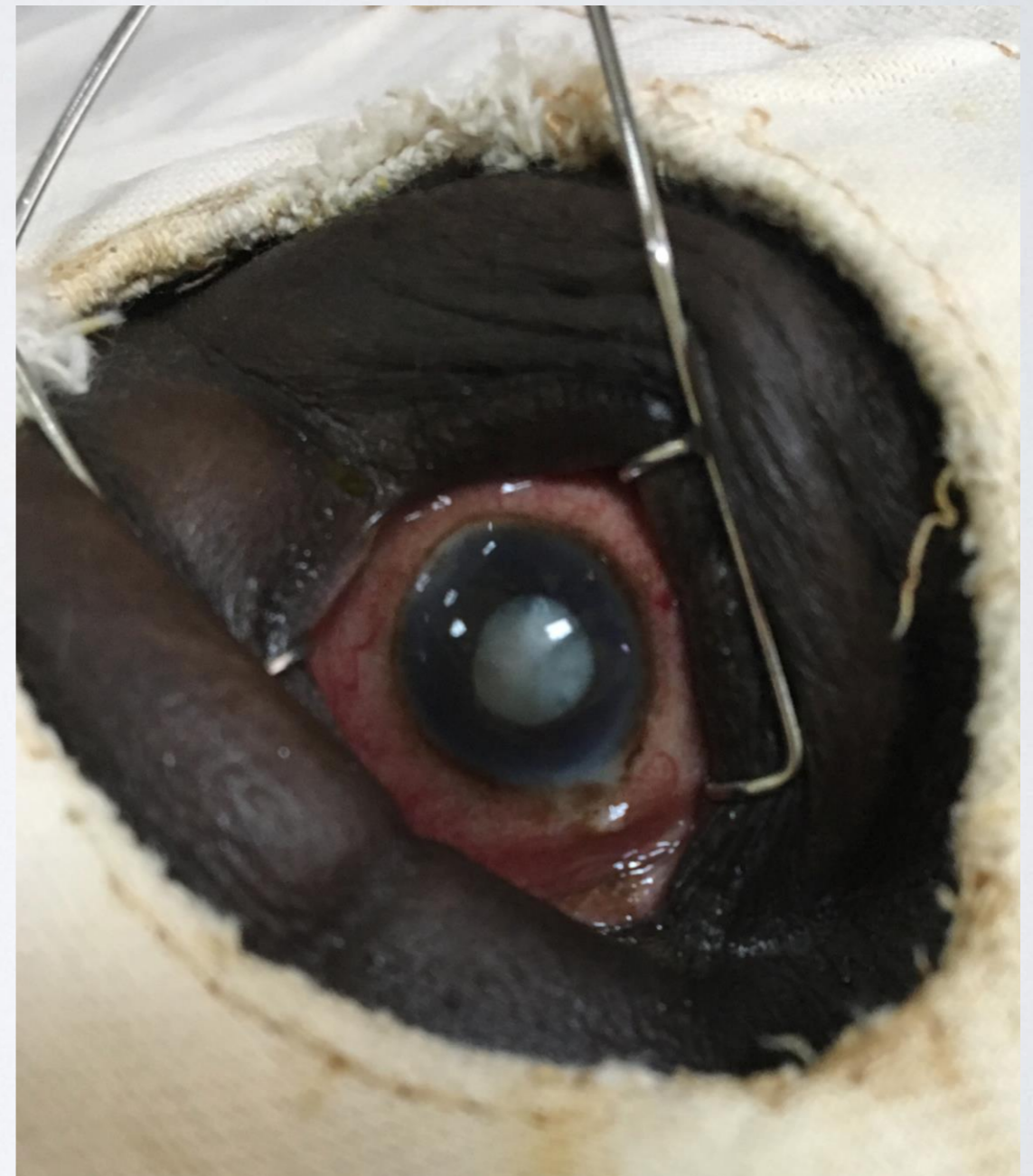
# JIMMA UNIVERSITY HOSPITAL



# SURGICAL THEATER



# STERILE TECHNIQUE

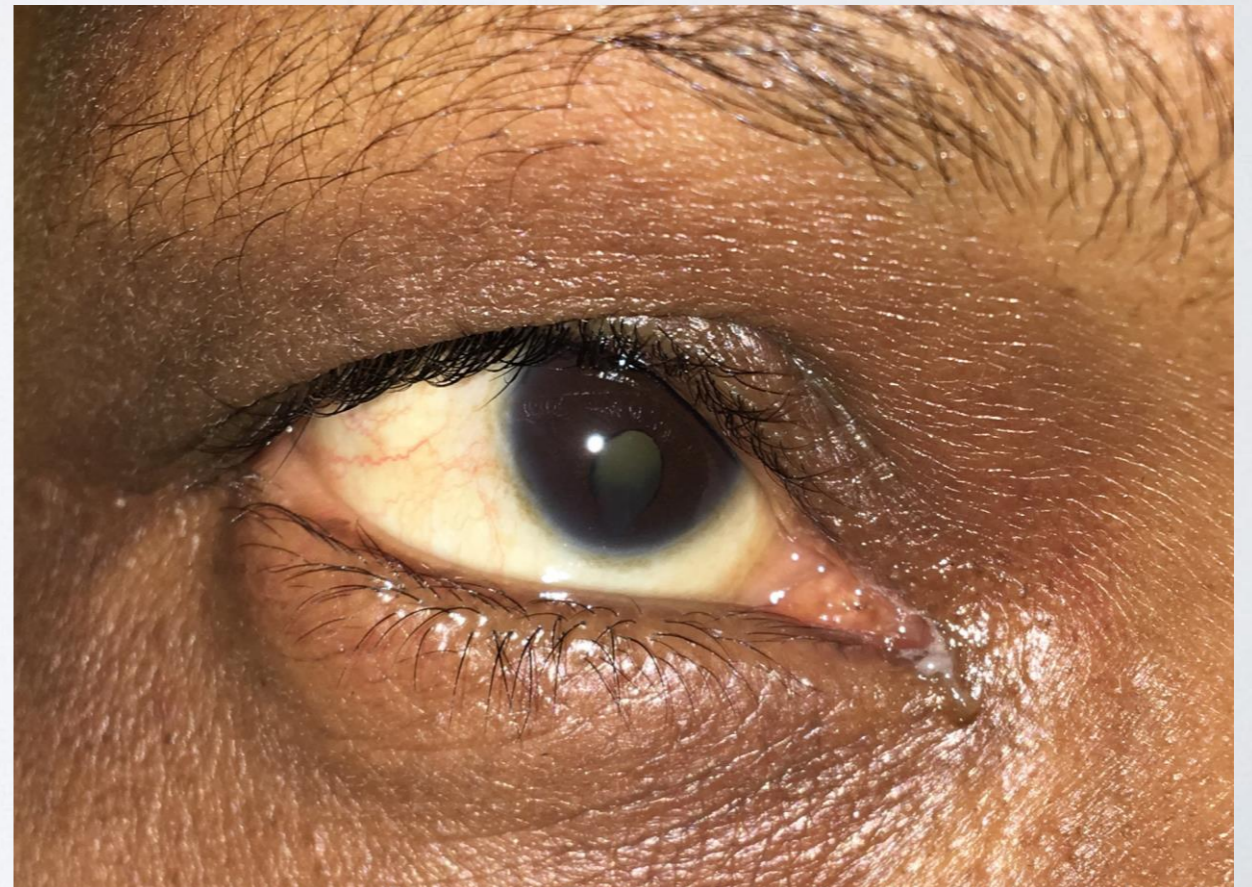
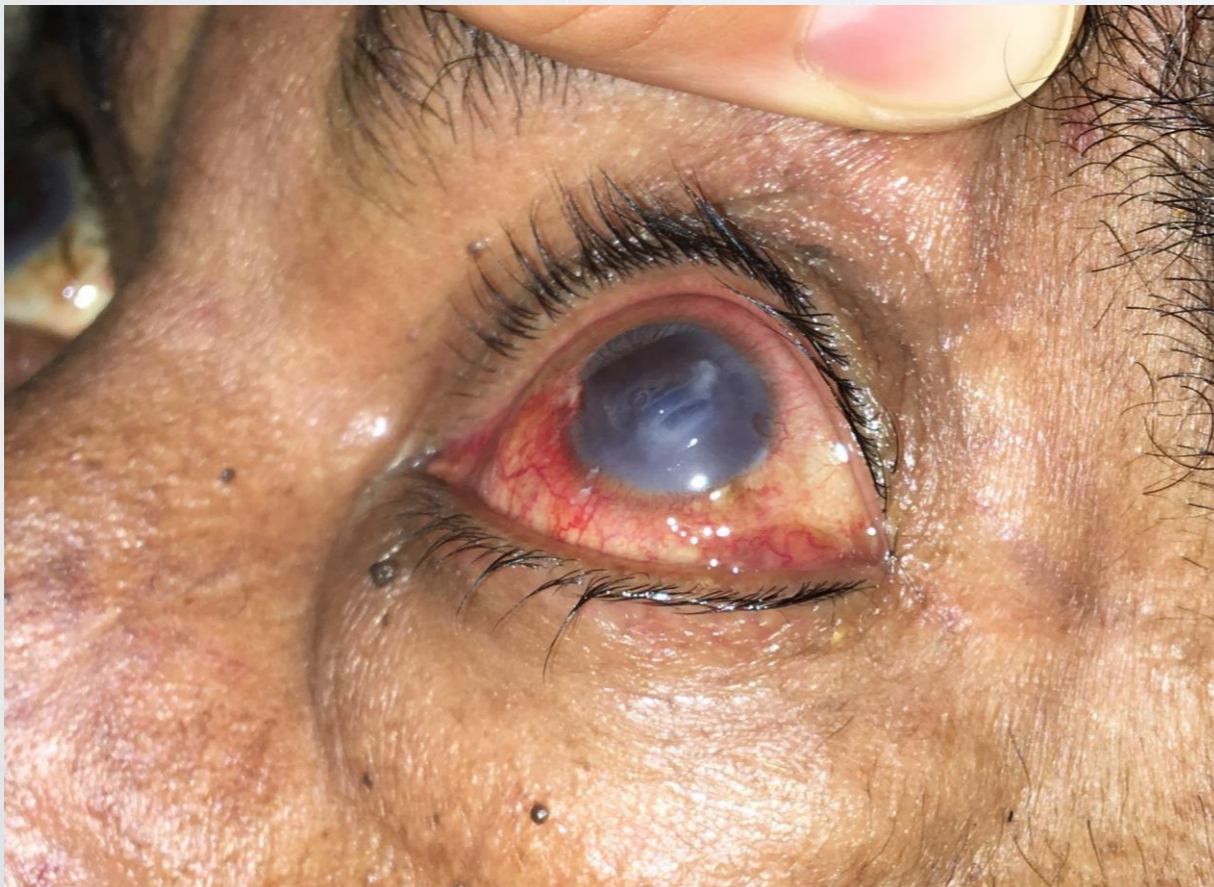


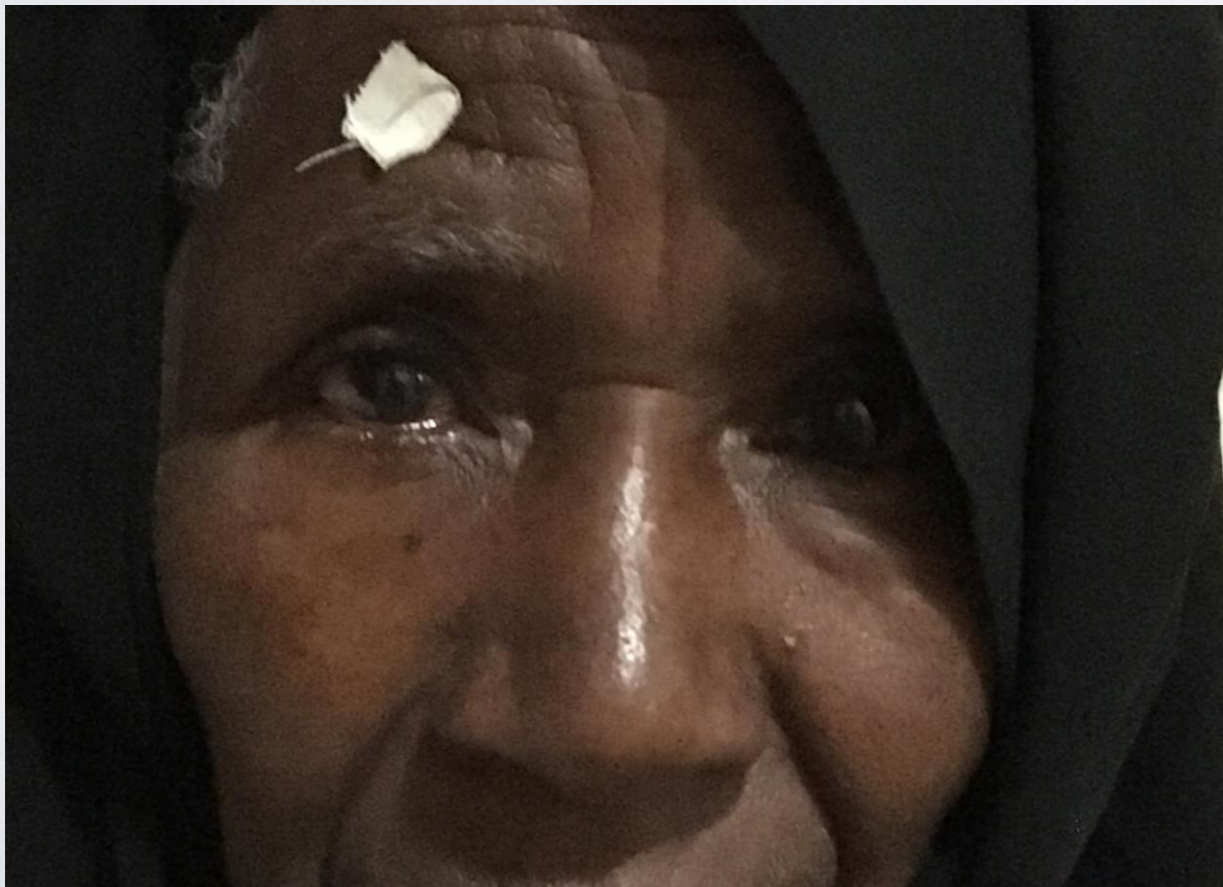
# ANESTHESIA



# PATHOLOGY



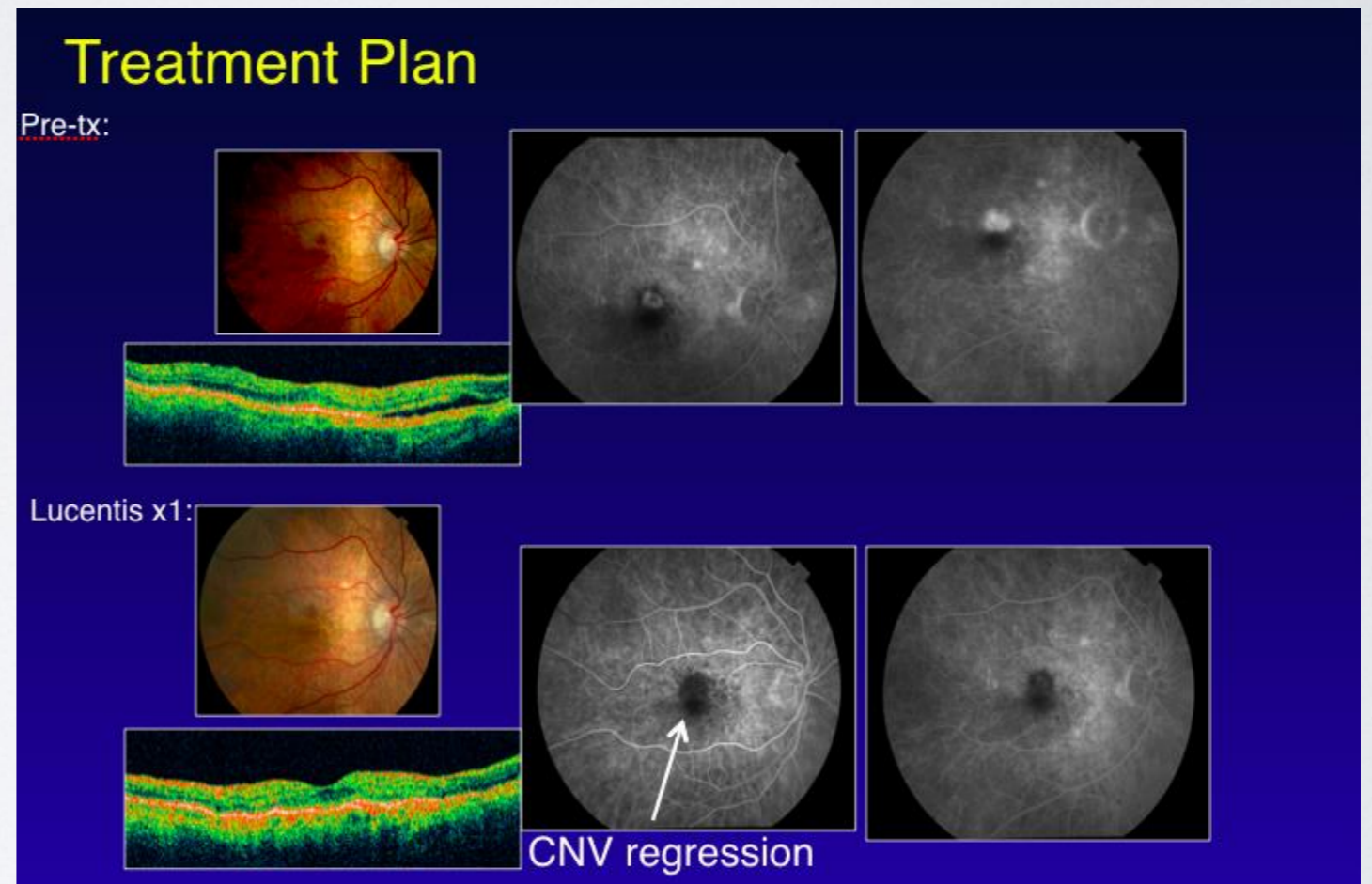






# MEDIAL RETINA LECTURES

- Macular degeneration
- Vein occlusion
- Vascular disease
- Diabetic retinopathy
- Ocular dystrophies
- Imaging modalities (FA/FAF/OCT)



# THIRD WORLD LIMITATIONS

- Diabetic retinopathy is 3rd leading cause of vision loss in working-age adults
- Inadequate/ no access to drug
- Poor level of disease understanding



# BOMET, KENYA

# TENWEK HOSPITAL

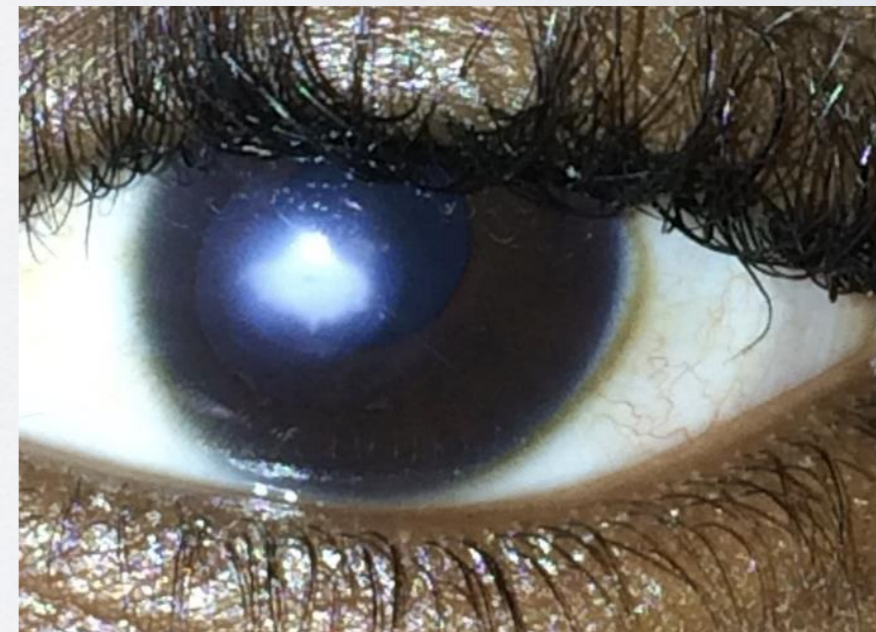
- Founded in 1935 by World Gospel Mission
  - “We treat, Jesus heals.”
- Primary hospital for area’s 1 million people
- Ophthalmology department is run by Dr. Ben Roberts







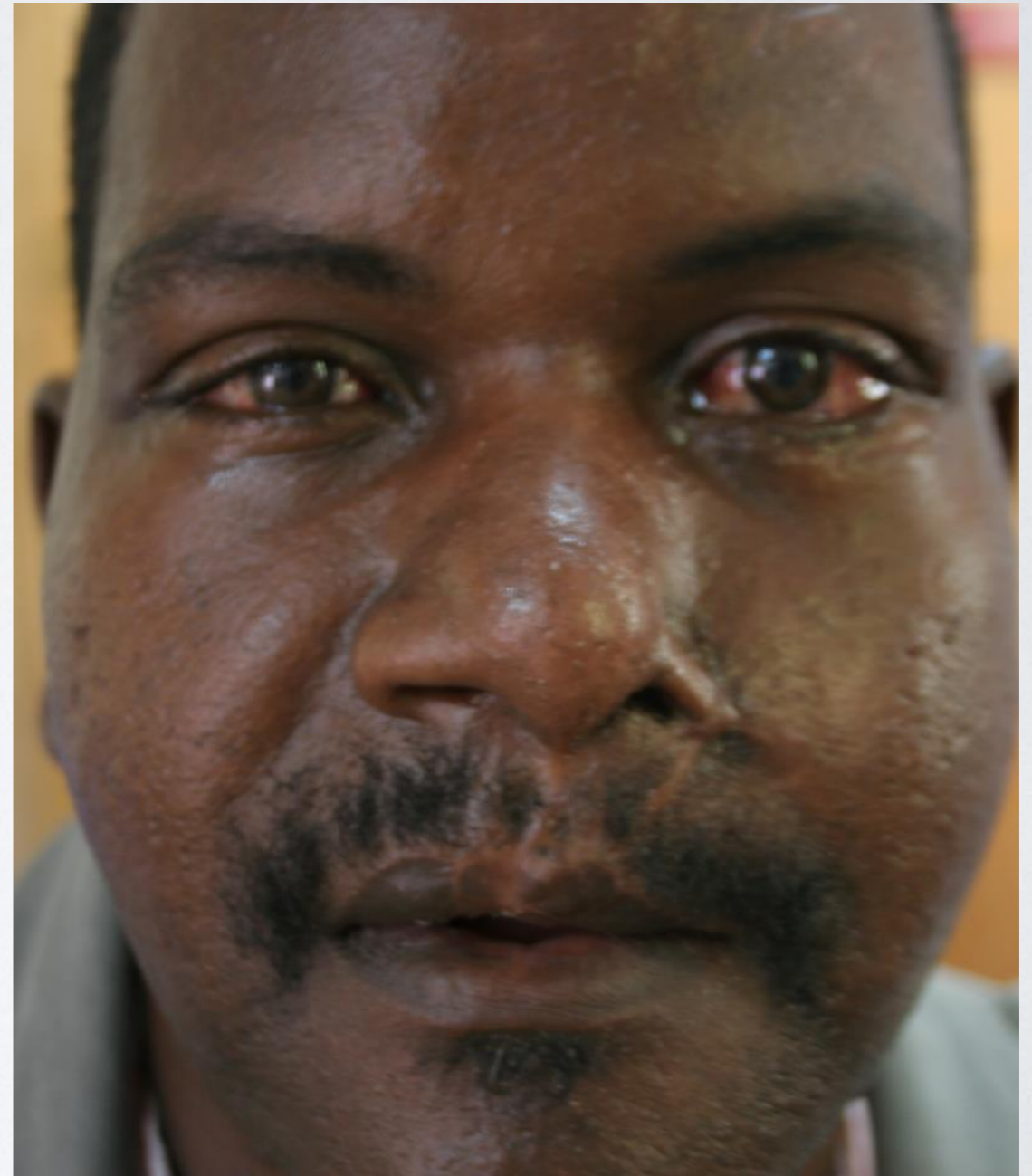
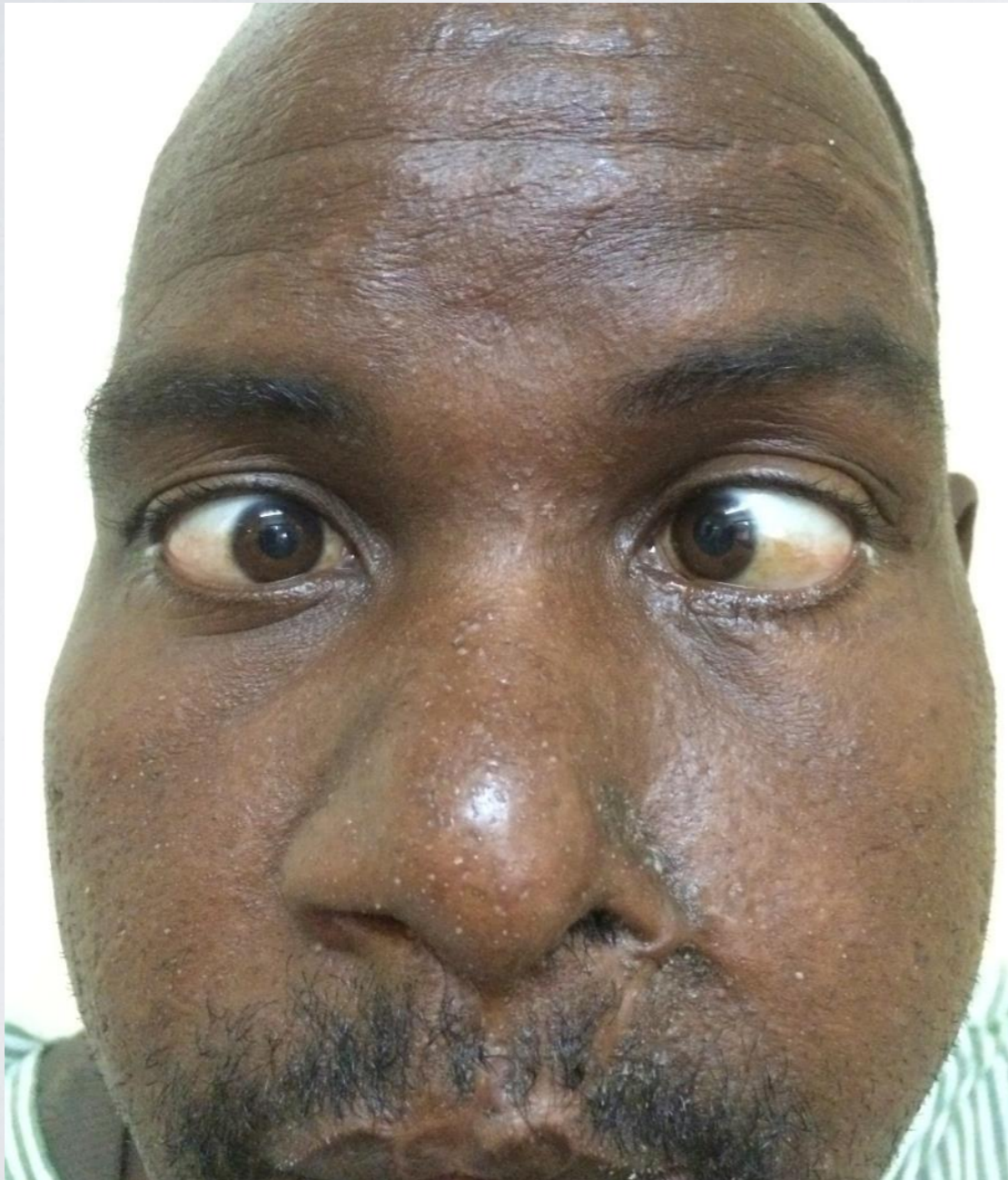
# PATHOLOGY



# CATARACT SURGERY



# TRAUMA




# EYELID RECONSTRUCTION



# POST-OPS







**“What’s attention-grabbing is the overnight transformation. The people looking almost crippled to one day later dancing with joy. It’s as close as we can get to magic as humanly possible. People think our surgeons are Gods.”**

**–Adrienne Graves, Ph.D., Himalayan Cataract Project Board Member**

Cure Blindness: Himalayan Cataract Project. Cureblindness.org

# REFERENCES:

Danquah L, Kuper H, Eusebio C, Rashid MA, Bowen L, Foster A, Polack S. [The long term impact of cataract surgery on quality of life, activities and poverty: results from a six year longitudinal study in Bangladesh and the Philippines.](#) 2014

Apr 18;9(4).

Essue BM, Li Q, Hackett ML, Keay L, Iezz B, Tran KD, Tan Phuc H, Jan S; VISIONARY Study Team. [A multicenter prospective cohort study of quality of life and economic outcomes after cataract surgery in Vietnam: the VISIONARY study.](#) Ophthalmology. 2014 Nov;121(11):2138-46.

Essue BM, Hackett ML, Mueller A, Hanh Duc NT, Phuc HT, Jan S. [Investigating the psychological and economic impact of cataract surgery in Vietnam: The VISIONARY observational study protocol.](#) BMC Ophthalmol. 2011 Sep 12;11:25.

Polack S, Eusebio C, Mathenge W, Wadud Z, Mamunur AK, Fletcher A, Foster A, Kuper H. [The impact of cataract surgery on health related quality of life in Kenya, the Philippines, and Bangladesh.](#) Ophthalmic Epidemiol. 2010 Dec;17(6):387-99.

Polack S, Eusebio C, Mathenge W, Wadud Z, Rashid M, Foster A, Kuper H. [The impact of cataract surgery on activities and time-use: results from a longitudinal study in Kenya, Bangladesh and the Philippines.](#) 2010 Jun 1;5(6).

Polack S, Kuper H, Eusebio C, Mathenge W, Wadud Z, Foster A. [The impact of cataract on time-use: results from a population based case-control study in Kenya, the Philippines and Bangladesh.](#) Ophthalmic Epidemiol. 2008 Nov-Dec;15(6):372-82.

# Erin B. Lally, MD

2530 Erwin Road  
Apartment 415  
Durham NC, 27705  
(724) 989-2541  
eblally@gmail.com

## EDUCATION

**Fellowship, Durham NC**  
Duke Eye Center  
Medical Retina

2015-2016

**Residency, Philadelphia PA**  
Wills Eye Institute  
Ophthalmology

2012 - 2015

**Internship, Philadelphia PA**  
Albert Einstein Medical Center  
Transition Year, Internal Medicine

2011 - 2012

**Jefferson Medical College, Philadelphia, PA**  
Doctor of Medicine

2007 - 2011

**Georgetown University, Washington DC**  
Bachelor of Arts in French, Concentration in Pre-Medicine  
Minor in Theology

2003 - 2007

## EXAMINATIONS

### **Board Eligible 2017**

**USMLE Step 1, passed**

June 2009

**USMLE Step 2 CS, passed**

June 2010

**USMLE Step 2 CK, passed**

July 2010

**USMLE Step 3, passed**

April 2012

## AWARDS AND HONORS

### **Clinical Years:**

Highest Honors in OBGYN

2009

Highest Honors in Psychiatry

2009

Excellent in Internal Medicine

2009

Highest Honors in Anesthesiology

2010

Highest Honors in Ophthalmology

2010

Excellent in Family Medicine

2010

Excellent in Pediatrics

2010

Highest Honors in Ocular Pathology

2010

Highest Honors in Clinical Ophthalmology at Temple University

2010

### **Undergraduate:**

Magna Cum Laude, Georgetown University

2003 – 2007

Cumulative GPA 3.72

Honors /Dean's List every semester

## RESEARCH EXPERIENCE AND PUBLICATIONS

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**Duke University Eye Center, Durham, NC**

2016

*Poster presentation*

Allingham M, Mukherjee D, Lally EB. A quantitative approach to predict differential effects of anti-VEGF treatment on diffuse and focal leakage in patients with diabetic macular edema. Poster session presented at: The Association for Research in Vision and Ophthalmology. 2016 May 1-5. Seattle, WA.

**Duke University Eye Center, Durham, NC**

2015- 2016

*Co-investigator*

*Spectral domain-optical coherence tomography angiography of retinal diseases*

Working with Principal Investigator Priyatham S. Mettu MD to use a new algorithm on the OptoVue OCT-Angiography device to visualize retinal vascularization and identify vascularization subtypes in Age-Related Macular Degeneration.

**Duke University Eye Center, Durham, NC**

2015-2016

*Co-investigator*

*Pilot study of safety of flucinolone acetonide intravitreal insert (FA-i) for the treatment of uveitis affecting the posterior segment*

Working with Principal Investigator Glenn K. Jaffe, MD to determine tolerability, safety, and benefits of the extended-release flucinolone acetonide intravitreal insert in people who have non-infectious intermediate, posterior, or pan-uveitis.

**Wills Eye Institute, Philadelphia, PA**

2014

*Author*

Lally EB, Murchinson AP, Moster ML, Bilyk JR. Compressive Optic Neuropathy From Neurosarcoidosis. *Ophthalm Plast Reconstr Surg*. 2014 Nov 25.

**Wills Eye Institute, Philadelphia, PA**

2014

*Author*

Lally EB, Shields CL. Fundus autofluorescence of congenital hypertrophy of the retinal pigment epithelium. In: Lois N, Forrester J, eds, *Fundus Autofluorescence, edition 2*. Philadelphia: Lippincott Williams Wilkins, 2015.

**Wills Eye Institute, Philadelphia, PA**

2014

*Author*

Shields CL, Arepalli S, Lally EB, Lally SE, Shields JA. Iris Stromal Cyst Management With Absolute Alcohol-Induced Sclerosis in 16 Patients. *JAMA Ophthalmol*. 2014 Jun 1;132(6):703-8.

**Wills Eye Institute, Philadelphia, PA**

2010

*Research Assistant, Glaucoma Service*

Working under Dr. George Spaeth to test a new method of determining contrast sensitivity that does not require letter recognition. By eliminating the confounders of literacy and pattern recognition, the study seeks to establish a more valid determination of contrast sensitivity.

**Wills Eye Institute, Philadelphia, PA**

2010

*Author*

Lally EB, Kligman BE, Shields CL. Cavitory Retinoblastoma: A low-grade variant of retinoblastoma with anticipated minimal response to therapy. Submitted to the *Journal of American Association for Pediatric Ophthalmology and Strabismus*. Project pending publication.

**Wills Eye Institute, Philadelphia, PA**

2010

*Author*

Lally EB, Shields CL. Conjunctival Nevi Clinical Features and Therapeutic Outcomes. *Evidence-Based Ophthalmology*. 11(3):160-161, July 2010.

**Wills Eye Institute, Philadelphia, PA**

2010

**Author**

Shields CL, Lally EB. Discussion of: A 30-month prospective study on the treatment of retinoblastoma in the Gabriel Toure Teaching Hospital, Bamako, Mali. Br J Ophthalmol. 2009;94:467-9. Evidence-Based Ophthalmology 2010; in press.

**Wills Eye Institute, Philadelphia, PA**

2009-2010

*Research Assistant, Wills Emergency Room*

Participated in retrospective study detailing admissions to the Wills Emergency Room over a one-year period. Project includes chart analysis for over 8,800 patients.

**Wills Eye Institute, Philadelphia, PA**

2009-2010

*Author*

Lally SE, Lally EB, Shields CL, Shields JA. Postpartum Conjunctival Hemorrhage as the Initial Manifestation of Orbital Lymphangioma. Project pending publication.

**Wills Eye Institute, Philadelphia, PA**

2008

*Research Assistant, Ocular Oncology Service*

Clinical research project with Dr. Bianciotto and Dr. Carol Shields comparing effectiveness between Ultrasound Biomicroscopy and Anterior Chamber Optical Coherence Tomography in the detection of ocular pathology of the anterior chamber. Project pending publication.

**Wills Eye Institute, Philadelphia, PA**

2008

*Research Assistant, Ocular Oncology Service*

Presentation at the Grand Rounds Tumor Clinic on the clinical presentations of Optic Nerve Coloboma and Morning Glory Syndrome.

## **VOLUNTEER AND LEADERSHIP EXPERIENCE**

**Qbank**

*Co-founder and board member*

2013-present

Created and developed an on-line question bank for OKAP study review. Database contains over 2,000 questions written by Wills Eye faculty, alumni and current residents. Online release pending.

**Wills Eye Gives Kids Sight Day, Philadelphia, PA**

2009- present

*Volunteer*

Participated in a citywide event that provided vision screening, eyeglasses and full ophthalmic examinations for children of all ages at no cost.

**Jefferson Sports Medicine Society, Philadelphia, PA**

2008 – 2009

*Co-President*

Organized physician-run talks and clinics that focused on topics of Sports Medicine. Participated in community service events to benefit Philadelphia elementary and high school children.

**JeffHOPE (Health, Opportunity, Prevention and Education), Philadelphia, PA**

2007 - 2011

*Volunteer*

Volunteer at a student-run organization that provides medical care to Philadelphia's homeless population.

**Dr. Jacob DaCosta Learning Society, Philadelphia, PA**

2007 - 2011

*Society Member*

Participated in community service events and mentored high school students interested in the medical profession.

## **PERSONAL AND OTHER INTERESTS**

**Rock and Ice Climbing**

1997-present

Summited Mount Everest, May 2011.

Climbed to Camp II on south side of Mount Everest (22,000') in 2007.

Climbed eight, 18,000 to 20,000 peaks in the Bolivian Andes over a 10-day period in 2007.

Summited Mount Blanc, The Matterhorn and numerous peaks in the French and Swiss Alps in 2006.

Ascended more than 20 of Colorado's 14,000' peaks.

**Running**

1999-present

Completed the 2009 Chicago Marathon, 2012 Philadelphia Marathon, 2013 Philadelphia Marathon and numerous half-marathons.

**Paragliding**

2002-present

Piloted over 600 solo flights throughout the United States, Mexico and Europe.

Other personal interests include skiing, traveling, and cooking.