

**CURRICULUM VITAE**  
**The Johns Hopkins University School of Medicine**

**Nakul Singh Shekhawat, M.D., M.P.H.**

**DEMOGRAPHIC AND PERSONAL INFORMATION**

**Current Appointments**

2019-present    Attending Physician, Johns Hopkins Hospital  
2020-present    Assistant Professor of Ophthalmology, Johns Hopkins University School of Medicine

**Personal Data**

Woods 376  
Wilmer Eye Institute  
Johns Hopkins University School of Medicine  
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**Education and Training**

2005-2009    B.A., Neuroscience, Vanderbilt University  
2012-2013    M.P.H., Epidemiology & Biostatistics, Johns Hopkins Bloomberg School of Public Health  
(Primary Mentor: Sheila West, PhD)  
2009-2014    M.D., Vanderbilt University School of Medicine  
2014-2015    Transitional Year Residency, St. Joseph Mercy Hospital, Ann Arbor, Michigan  
2015-2018    Ophthalmology Residency, Kellogg Eye Center, University of Michigan  
2019-2020    Cornea and External Disease Fellowship, Wilmer Eye Institute, Johns Hopkins University

**Professional Experience**

2018-2019    Clinical Lecturer in Ophthalmology, Kellogg Eye Center, University of Michigan, Ann Arbor, MI  
2019-2020    Assistant of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD  
2020-present    Assistant Professor of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD

**PUBLICATIONS**

**Original Research [OR]**

1. Luke Tomycz, **Nakul Shekhawat**, Dennis Velez, Jonathan Forbes, Dennis Lockney, Mayshan Ghiassi, Mahan Ghiassi, Robert Mericle. The Spectrum of Management Practices in Non-Traumatic Subarachnoid Hemorrhage: A Survey of High-Volume Centers in the United States. *Surgical Neurology International* 2011;2:90.
2. Emily W. Gower, Julia J. Whiteside-de Vos, Sandra D. Cassard, **Nakul S. Shekhawat**, David S. Friedman. The Medicare Glaucoma Screening Benefit: A Critical Program that Misses its Target. *American Journal of Ophthalmology* 2013;156(2): 211-212.
3. **Nakul Shekhawat**, Harran Mkocho, Beatriz Munoz, Charlotte Gaydos, Laura Dize, Thomas Quinn, Sheila West. Cohort and age effects of mass drug administration on prevalence of trachoma: a longitudinal study in rural Tanzania. *Investigative Ophthalmology and Visual Science* 2014;55(4): 2307-2314.

4. Henry D. Jampel, Sandra D. Cassard, David S. Friedman, **Nakul S. Shekhawat**, Julia Whiteside-de Vos, Harry A. Quigley, Emily W. Gower. Trends Over Time and Regional Variations in the Rate of Laser Trabeculoplasty in the Medicare Population. *JAMA Ophthalmology* 2014;132(6):685-90.
5. Joshua D. Stein, **Nakul Shekhawat**, Nidhi Talwar, Rajesh Balkrishnan. Impact of the Introduction of Generic Latanoprost on Glaucoma Medication Adherence. *Ophthalmology* 2015;122(4):738-47.
6. **Nakul S. Shekhawat**, Michael V. Stock, Elizabeth F. Baze, Mary K. Daly, David E. Vollman, Mary G. Lawrence, Amy S. Chomsky. Impact of First Eye versus Second Eye Cataract Surgery on Visual Function and Quality of Life. *Ophthalmology* 2017;124:1496-1503.
7. **Nakul S. Shekhawat**, Roni M. Shtein, Taylor S. Blachley, Joshua D. Stein. Antibiotic Prescription Fills for Acute Conjunctivitis among Enrollees in a Large United States Managed Care Network. *Ophthalmology* 2017; 124(8): 1099-1107.
8. Emily W. Gower, Joshua D. Stein, **Nakul S. Shekhawat**, Shravani Mikkilineni, Taylor S. Blachley, Nicholas M. Pajewski. Geographic and Demographic Variation in Use of Ranibizumab versus Bevacizumab for Neovascular Age-related Macular Degeneration in the United States. *Am J Ophthalmol* 2017;184:157-166.

### Case Reports [CR]

1. Samir Jabbour, **Nakul S. Shekhawat**, Ariel Chen, Fasika A. Woreta. Presumed Herpes Zoster Ophthalmicus Reactivation Following Recombinant Zoster Vaccination. *Cornea*. [Accepted]

### Book Chapters, Monographs [BC]

1. **Shekhawat, N.** (2008). Amblyopia. In Y. Zhang (Ed.), *Encyclopedia of Global Health*. (pp. 75-76). Thousand Oaks, CA: SAGE Publications, Inc.
2. **Shekhawat, N.** (2008). Cataract. In Y. Zhang (Ed.), *Encyclopedia of Global Health*. (pp. 357-358). Thousand Oaks, CA: SAGE Publications, Inc.
3. **Shekhawat, N.** (2008). Eye Care. In Y. Zhang (Ed.), *Encyclopedia of Global Health*. (pp. 645-646). Thousand Oaks, CA: SAGE Publications, Inc.
4. **Shekhawat, N.** (2008). Ophthalmologist. In Y. Zhang (Ed.), *Encyclopedia of Global Health*. (p. 1284). Thousand Oaks, CA: SAGE Publications, Inc.
5. **Shekhawat, N.** (2008). Optometrist. In Y. Zhang (Ed.), *Encyclopedia of Global Health*. (pp. 1287-1288). Thousand Oaks, CA: SAGE Publications, Inc.

### Editorials [ED]

1. Sayoko E. Moroi, David M. Reed, David S. Sanders, Ahmed Almazroa, Larry Kagemann, Neil Shah, **Nakul Shekhawat**, Julia E. Richards. Precision Medicine to Prevent Glaucoma-related Blindness. *Curr Opin Ophthalmol* 2019;30(3):187-198.

### Media Releases or Interviews [MR]

#### Local

1. "Why you're probably getting the wrong pink eye treatment." Michigan Health Lab. June 28, 2017. <https://www.uofmhealth.org/news/archive/201706/why-youre-probably-getting-wrong-pink-eye-treatment>
2. "Aging Baby Boomers Push Sky High Incidence of Shingles of the Eye." Michigan Health Lab. May 1, 2019. <https://labblog.uofmhealth.org/lab-report/aging-baby-boomers-push-sky-high-incidence-of-shingles-of-eye>

## National/International

1. “Second-Eye Cataract Surgery Improves Quality of Life.” Medscape. November 19, 2014. <https://www.medscape.com/viewarticle/835211>
2. “Antibiotic Eye Drops Often Unhelpful for Pinkeye.” The New York Times. June 22, 2017. <https://www.nytimes.com/2017/06/22/well/live/antibiotic-eye-drops-often-unhelpful-for-pinkeye.html>
3. “You’re Probably Treating Your Pinkeye Wrong, Study Says.” U.S. News and World Report. June 29, 2017. <https://health.usnews.com/wellness/health-buzz/articles/2017-06-29/youre-probably-treating-your-pinkeye-wrong-study-says>
4. “You’re Treating Pink Eye the Wrong Way.” Time Magazine. June 30, 2017. <https://time.com/4841839/pink-eye-antibiotics-conjunctivitis/>
5. “Increasing Cases of Shingles in the Eye Raise Key Questions.” JAMA News Network. August 7, 2019. <https://jamanetwork.com/journals/jama/article-abstract/2748020>
6. “Shingle White Female.” The Ophthalmologist. July 5, 2019. <https://theophthalmologist.com/subspecialties/shingle-white-female>
7. “A Patient’s Guide to Shingles.” U.S. News and World Report. January 8, 2020. <https://health.usnews.com/conditions/skin-disease/shingles>

## Other Media [OM] (Videos, Websites, Blogs, Social Media, etc.)

### YouTube Instructional Videos

1. Delivering Effective Presentations. [https://www.youtube.com/watch?v=r\\_fmBZHpxE](https://www.youtube.com/watch?v=r_fmBZHpxE)

## FUNDING

### EXTRAMURAL Funding

#### Research Extramural Funding

*Previous*

2018-2019

#### **Eversight Eye and Vision Research Grant**

Title: “Epidemiology of herpes simplex virus keratitis and herpes zoster ophthalmicus in the U.S. population”

Sponsor: Eversight Eye Bank

Total direct cost: \$15,000

Principal Investigator, 10% effort

2018-2019

#### **Blue Cross Blue Shield Foundation Physician Investigator Award**

Title: “Health policy implications of herpes simplex virus keratitis and herpes zoster ophthalmicus”

Sponsor: Blue Cross Blue Shield of Michigan Foundation

Total direct cost: \$10,000

Principal Investigator, 10% effort

### INTRAMURAL Funding

#### Research Intramural Funding

*Previous*

2016-2017

#### **Michigan Ophthalmology Trainee Career Development Award**

Title: “Routine fundus photography for posterior segment disease in South India”

Sponsor: Kellogg Eye Center, University of Michigan

Total direct cost: \$5,000

Mentor: Maria Woodward, M.D., M.S.

## CLINICAL ACTIVITIES

### Clinical Focus

Cornea and anterior segment surgeon with clinical focus on infectious keratitis and cataract surgery. Special interest in international ophthalmology. Collaborating with surgeons and engineers to develop medical devices to improve outcomes of cataract surgery in low-resource settings.

### Certification

#### Medical, other state/government licensure

2018-2022 Michigan Board of Medicine, 4301105702  
2019-present Maryland Board of Physicians, D0087228

#### Boards, other specialty certification

2019 Catalys system for femtosecond laser assisted cataract surgery  
2020 Intralase refractive surgery suite

#### Clinical (Service) Responsibilities

8/2018-6/2019 Clinical Lecturer in Comprehensive Ophthalmology, Kellogg Eye Center, University of Michigan  
7/2019-6/2020 Assistant of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University  
7/2020-present Attending Physician, Wilmer Eye Institute, Johns Hopkins University

## EDUCATIONAL ACTIVITIES

### Classroom instruction

#### JHMI/Regional

7/01/2020 "Fundamentals of Corneal Ulcer Management."  
Lecture to Wilmer residents. Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD.  
8/13/2020 "Corneal and External Infections: Bacteria, Fungi, and Parasites"  
Lecture to Wilmer residents. Wilmer Eye Institute, Johns Hopkins University, Baltimore, MD.

#### International

6/21/2019 "Thinking About Research: A Primer for Physicians."  
Lecture to Aravind residents. Aravind Eye Hospital, Pondicherry, India.  
6/14/2019 "Delivering Effective Presentations." Grand Rounds. Aravind Eye Care System, South India.  
Recording available online at: [https://www.youtube.com/watch?v=r\\_flmBZHpXE](https://www.youtube.com/watch?v=r_flmBZHpXE)

### Clinical instruction

#### JHMI/Regional

2018-2019 Trauma attending and clinical lecturer, Kellogg Eye Center, University of Michigan. Supervised Kellogg residents in comprehensive ophthalmology clinic, surgical skills wet labs, emergency consults, and surgical trauma call.  
2019-2020 Assistant of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine. Supervised Wilmer residents in general eye service clinic, cataract surgery, corneal/anterior segment trauma surgery, and emergency consults.  
2020-present Assistant Professor of Ophthalmology, Wilmer Eye Institute, Johns Hopkins University School of Medicine. Supervise Wilmer residents and cornea fellows in cataract, corneal, and anterior segment surgery as well as cornea clinic.

#### National

10/13/2019 "Learning the DMEK procedure." Role: course faculty. Learner level: ophthalmologists. DMEK training course, real-time surgery on cadaver eyes. American Academy of Ophthalmology 2019 Annual Meeting, San Francisco, CA

### CME instruction

#### National

10/26/2019 "An evidence-based approach to the diagnosis and treatment of neurotrophic keratopathy." Faculty participant in expert CME roundtable. Johns Hopkins University School of Medicine, Baltimore, MD

## RESEARCH ACTIVITIES

### Research Focus

My research focuses on ophthalmic epidemiology, ophthalmic surgical outcomes, and corneal infections. I have designed, conducted, and/or analyzed data from two international trials in South India and Tanzania. I conduct surgical outcomes research focusing on cataract, corneal, and anterior segment surgery. I also conduct "big data" analysis of health care claims data from Medicare and private insurance datasets to examine several clinical, epidemiologic, and health policy-related questions in ophthalmology. This research has led to several publications in the peer-reviewed literature and has been cited by mainstream news outlets such as *The New York Times*, *Time Magazine*, and *U.S. News and World Report*.

## ORGANIZATIONAL ACTIVITIES

### Journal peer review activities

2020-present Reviewer, *Cornea*  
2020-present Reviewer, *BMC Ophthalmology*  
2020-present Reviewer, *American Journal of Ophthalmology Case Reports*

### Professional Societies

2011-present Member, Association for Research in Vision and Ophthalmology  
2015-present Member, American Academy of Ophthalmology  
2015-present Member, American Society for Cataract and Refractive Surgery  
2019-present Member, Cornea Society  
2019-present Member, International Society of Refractive Surgery  
2020-present Member, Tear Film and Ocular Surface Society  
2020-present Member, Society for Clinical Trials

### Session Chair

5/8/2013 Session Moderator, "Eye Care: Who's Not Getting It and Why It Matters."  
Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting. Seattle, WA.

## RECOGNITION

### Awards, Honors

#### Local/Regional

- 2009 **Early Acceptance Program**, Vanderbilt University School of Medicine. Offered competitive admission to medical school as college sophomore based on merit.
- 2010 **Microbes and Defense Academic Society**, Vanderbilt University School of Medicine. Admission based on excellent performance in medical school microbiology and immunology.
- 2014 **J. Donald M. Gass Award**, Vanderbilt University School of Medicine. For excellence in ophthalmology education and research during medical school.
- 2016 **George Slocum Research Award, 3<sup>rd</sup> Place**, Kellogg Eye Center, University of Michigan. For paper presentation at Kellogg Eye Center Research Day.

#### National

- 2005 **National Merit College Scholarship**. Awarded for academic merit.
- 2007 **Ingram Scholarship Program**, Vanderbilt University. Vanderbilt's most prestigious scholarship; awarded full undergraduate tuition for leadership, service, and academic merit.
- 2011 **National Eye Institute Travel Award**, Association for Research in Vision and Ophthalmology. Sponsorship to ARVO conference based on research merit.
- 2016 **American Ophthalmological Society Travel Award**. Sponsorship for podium presentation at AOS annual meeting titled "substantial over-prescription of antibiotics for acute conjunctivitis in the United States."
- 2017 **Heed Society Resident Retreat**. Invitation based on research and leadership potential in academic ophthalmology.
- 2018 **Resident and Fellow Research Forum**, Association of University Professors of Ophthalmology/ Research to Prevent Blindness. One of four U.S. trainees invited to give podium presentation based on research and academic merit.
- 2018 **Resident Excellence Award**, American Society of Cataract and Refractive Surgery Foundation. One of ten U.S. residents awarded sponsorship for attending ASCRS 2018 annual meeting. Based on excellence in research, patient care, leadership, and education.
- 2019 **Fellow, Society of Heed Fellows**, Heed Ophthalmic Foundation. Awarded to top ophthalmology fellows nationwide for postgraduate training in ophthalmology.

#### International

- 2014 **Best Paper Award**, American Academy of Ophthalmology Annual Meeting. For podium presentation titled "impact of first eye versus second eye cataract surgery on quality of life" judged by international panel to be best cataract paper of the session. Awarded during internship year of residency.
- 2019 **Claes Dohlman Society Fellowship Award**, Massachusetts Eye and Ear Infirmary, Harvard Medical School. International recognition of a top cornea fellow for academic, surgical, and research excellence.

## OTHER PROFESSIONAL ACCOMPLISHMENTS

### Posters

- 5/5/2011 "Impact Of First Eye Versus Second Eye Cataract Surgery On Quality Of Life: Results From the Veterans Affairs Ophthalmic Surgical Outcomes Data Program." *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Fort Lauderdale, FL.
- 5/10/2012 "Correlation of Subjective Nuclear Sclerotic Cataract Grading and Intraoperative Cumulative Dissipated Energy During Phacoemulsification". *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Fort Lauderdale, FL.
- 3/2/2013 "Regional and Physician-Level Variation in Rates of Laser Trabeculoplasty in the Medicare Population." *American Glaucoma Society 23<sup>rd</sup> Annual Meeting*. San Francisco, CA.

- 11/18/2013 "Comparison of Surgical Outcomes of Trypan Blue Staining in Mature, Traumatic, Corneal Opacity-Associated, and Uncomplicated Cataracts: Results of the Ophthalmic Surgical Outcomes Data Project." *American Academy of Ophthalmology (AAO) Annual Meeting*. New Orleans, LA.
- 10/20/2014 "Bevacizumab Versus Ranibizumab for Neovascular AMD: The Potential Effect of Who and Where." *American Academy of Ophthalmology (AAO) Annual Meeting*. Chicago, IL.
- 5/4/2016 "Substantial Over-Prescription of Antibiotics for Acute Conjunctivitis in the United States." *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Seattle, WA.
- 5/11/2017 "Geographic Variation, National Trends, and Characteristics of Patients Receiving Co-Managed Cataract Surgery." *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Baltimore, MD.

### Oral/Podium Presentations

- 4/15/2007 "Providing Eye Care in Rural Rajasthan, India." *Unite for Sight International Health Conference*. Stanford University, Palo Alto, CA.
- 4/12/2013 "Cohort- and Age-Specific Effects of Annual Mass Drug Administration on Prevalence of Trachoma: A Longitudinal Study in Rural Tanzania." *Wilmer Eye Institute Research Meeting*. Baltimore, MD.
- 5/8/2013 "Cohort- and Age-Specific Effects of Annual Mass Drug Administration on Prevalence of Trachoma: A Longitudinal Study in Rural Tanzania." *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Seattle, WA.
- 10/19/2014 "Impact of First Eye Versus Second Eye Cataract Surgery on Quality of Life." *American Academy of Ophthalmology (AAO) Annual Meeting*. Chicago, IL.
- 5/20/2016 "Substantial Over-Prescription of Antibiotics for Acute Conjunctivitis in the United States." *American Ophthalmological Society (AOS) 152<sup>nd</sup> Annual Meeting*. Colorado Springs, CO.
- 6/11/2016 "Substantial Over-Prescription of Antibiotics for Acute Conjunctivitis in the United States." *Kellogg Eye Center 32<sup>nd</sup> Annual Research Day*. Ann Arbor, MI.
- 6/2/2017 "Routine Fundus Photography Screening for Posterior Segment Disease: Design and Rationale of a Stepped-wedge, Cluster-randomized Trial." *Kellogg Eye Center 33<sup>rd</sup> Annual Research Day*. Ann Arbor, MI.
- 1/26/2018 "Topiramate-induced Angle Closure Glaucoma: Far More Common Than Previously Reported." *Association of University Professors of Ophthalmology (AUPO) / Research to Prevent Blindness (RPB) 2018 Resident & Fellow Research Forum*. Austin, TX.
- 6/12/2018 "Routine Fundus Photography Screening for Posterior Segment Disease: A Stepped-wedge, Cluster-randomized Trial." *Kellogg Eye Center 34<sup>th</sup> Annual Research Day*. Ann Arbor, MI.
- 5/1/2019 "Demographic and Temporal Variation in Incidence of Herpes Zoster Ophthalmicus in the United States Population." *Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting*. Vancouver, Canada.
- 5/5/2019 "Anatomic and Refractive Outcomes of Intraclear Intraocular Lens Fixation Using the Flanged Haptic Technique." *American Society of Cataract and Refractive Surgery (ASCRS) Annual Meeting*. San Diego, CA.

## International Activities

- 6/2019 **Aravind Eye Care System, Pondicherry, India**  
Training course in manual small incision cataract surgery. Also delivered grand rounds to 5 hospitals across Aravind Eye Care System on delivering effective presentations. Lectured Aravind Pondicherry residents on clinical research methods.
- 1/2017 **Aravind Eye Care System, Pondicherry & Madurai, India**  
Personally designed a prospective, cluster-randomized study of >1500 patients evaluating the effects of a telemedicine imaging device on diagnosis, referral, and treatment patterns at the Aravind Eye Health System. Analyzed patient demographics, clinical information, and diagnosis and referral patterns from 38,000 outpatient visits in the Pondicherry region to evaluate and improve quality of care; presented key findings and recommendations to Aravind's senior administrative leadership.
- 5/2015 **Helen Keller International, Dhaka, Bangladesh**  
Evaluated diabetic retinopathy screening programs at three large hospitals in Dhaka & Chittagong districts, identified bottlenecks to achieving program goals, and developed strategic plan for improving performance. Analyzed two competing models of diabetic retinopathy screening in terms of patient demographics, clinical presentation, geographic referral patterns, loss to follow-up, and other key performance metrics.
- 2010, 2011 **Centro Nacional de Oftalmologia, Managua, Nicaragua**  
Designed and conducted patient education program at Nicaragua's largest public eye hospital. Established electronic medical record system to improve clinic efficiency. Collected, measured and distributed 600 prescription eyeglasses.
- 6/2008-7/2008 **Himalayan Health Exchange, Lahaul, India**  
Volunteered for medical team hosting eight camps in rural regions of Himachal Pradesh. Served as guide and Hindi-English interpreter for 35 medical students, physicians and dentists. Performed H&Ps, eyeglass refraction, medication administration and patient counseling.
- 2006, 2007 **Eye Research Centre Society, Jaipur, India**  
Traveled with ophthalmology team to underserved rural locations in north India. Screened thousands of patients for eye disease, prescribed eyeglasses, administered medications, admitted cataract patients, and participated in pre- and post-operative patient care. Interviewed patients and compiled information regarding financial and social background, barriers to obtaining treatment, eye health education status, and impact of surgery on quality of life.