

RETINA: THEN AND NOW

As part of our 20th anniversary, *Retina Today* is digging into the archives to reflect on how much the profession has changed.



SEPTEMBER SPOTLIGHT: VISION CARE FOR UNDERREPRESENTED PATIENTS



In 2006, Rohit Varma, MD, MPH, contributed an article called *Vision Care Interventions Aimed at Latinos are Needed* to one of *Retina Today's* first issues. The article shared findings from the Los Angeles Latino Eye Study (LALES), which revealed that Latinos were not receiving adequate vision care. Two decades later, Dr. Varma reflects on the study's enduring effect on the profession today.

— Rebecca Hepp, MA, Editor-in-Chief

Retina Today (RT): What were the findings from the Los Angeles Latino Eye Study?

Rohit Varma, MD, MPH: The LALES was the largest and most comprehensive population-based study of retinal disease in Latino adults in the United States and provided estimates of the prevalence of diabetic retinopathy (DR) and AMD in one of the nation's fastest-growing populations. The retinal findings were striking: Nearly half of Latino adults with diabetes had DR, and approximately one in five participants with diabetes was first diagnosed during the study examination.¹ More broadly, LALES demonstrated the power of rigorous population-based research to identify opportunities for prevention, early detection, and improved patient care.

RT: How has awareness of retinal disease in underrepresented patients improved?

Dr. Varma: One of the greatest advances has been the recognition that retinal disease is frequently asymptomatic in its earliest stages, making regular examination and systematic screening essential. This lesson carries particular weight for the population studied in the LALES, given the high burden of DR documented among Latino adults.

Equally important, the past 2 decades have seen remarkable therapeutic advances. Anti-VEGF therapy has transformed the management of diabetic

macular edema, proliferative DR, and wet AMD, improving visual outcomes.

Population-based research has also expanded across a broader range of communities, and the combination of earlier diagnosis, stronger screening programs, wider adoption of teleophthalmology, advanced retinal imaging, and effective therapy has meaningfully improved care. Important gaps remain, however, in ensuring that every patient receives timely, high-quality eye care.

RT: What are the next steps to ensure underrepresented patients receive the care they need?

Dr. Varma: The next frontier is extending the lessons of LALES to historically understudied populations, particularly those living in rural communities.

Equally important is continued federal investment in long-term population-based cohort studies. Each follow-up examination creates opportunities to answer new scientific questions that could not have been envisioned when the study began.

Longitudinal population-based cohort studies are among our nation's most valuable scientific resources because they allow us to understand who develops disease, why it progresses, and how retinal changes predict future systemic health. Increasingly, these studies also allow us to evaluate retinal biomarkers

as indicators of biological aging and systemic vascular health.

This vision is reflected in the recent National Heart, Lung, and Blood Institute roadmap led by Emily Y. Chew, MD, and colleagues. It emphasizes leveraging existing longitudinal cohort studies to investigate retinal biomarkers of cardiovascular disease, stroke, vascular dementia, and other manifestations of systemic vascular aging.²

Looking back, the LALES demonstrated how rigorous population-based retinal research can transform our understanding of eye disease and improve patient care. If the first 20 years established the retina as a window to eye disease, the next 20 years will establish it as one of medicine's most powerful windows to systemic health. ■

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1. Paz SH, Varma R, Klein R, Wu J, Azen SP. Los Angeles Latino Eye Study Group. Noncompliance with vision care guidelines in Latinos with type 2 diabetes mellitus: the Los Angeles Latino Eye Study. *Ophthalmology*. 2006;113(8):1372-1377. doi.org/10.1016/j.ophtha.2006.04.018
2. Chew EY, Burris SA, Abraham AG, et al. Standardization and clinical applications of retinal imaging biomarkers for cardiovascular disease: a roadmap from an NHLBI workshop. *Nat Rev Cardiol*. 2025;22(1):47-63. doi.org/10.1038/s41569-024-01060-8

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