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Preschool children face increasing vision problems over coming decades according to USC Roski Eye Institute research article in *JAMA Ophthalmology*

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LOS ANGELES – Research experts at the [University of Southern California \(USC\) Roski Eye Institute](#), found that visual impairment (VI) in preschool children will increase 26 percent affecting almost 220,000 children over the next 45 years in a study published in [JAMA Ophthalmology](#) today.

The USC researchers found that between 2015 and 2060 multiracial American children will have the greatest proportional increase (137 percent) in VI cases and Hispanic white children will remain the largest demographic group in terms of the absolute numbers of VI cases (44 percent of the total) while white American children will have the largest proportional decrease (21 percent). The states projected to have the most children with VI over the next few decades are California, Texas and Florida.

“Most of the young children ages 3-6 with vision problems today – which is about 174,000 children – are resulted from simple uncorrected refractive errors,” said [Rohit Varma](#), MD, MPH, principal investigator of the Multi-Ethnic Pediatric Eye Disease (MEPEDS) study and director of the USC Roski Eye Institute as well as dean of the [Keck School of Medicine of USC](#). “Our research offers a comprehensive look at the prevalence of VI in the U.S. preschool population. We conducted this study because of concern about the future eye health of children since there has been a lack of accurate data characterizing these eye health issues.”

The new study used prevalence data from two major population-based studies, including [MEPEDS](#) – the largest undertaken examining childhood eye diseases – to determine demographic and geographic variations in VI in children ages 3 to 5 years in the United States in 2015 and estimated projected prevalence through 2060. The USC researchers defined visual impairment as decreased visual acuity (VA) (<20/50 in children 36 to 47 months of age or <20/40 in children 48 months of age or older) in the better-seeing eye in the presence of an identifiable ophthalmic cause.

The MEPEDS research led by Dr. Varma, is also part of a collaborative international research effort with the Pediatric Eye Disease Consortium. This new data and additional findings from this consortium will be presented next week at the [Association for Research in Vision and Ophthalmology \(ARVO\)](#) Annual Meeting held May 7-11 in Baltimore.

USC Roski Eye Institute Researchers Project Visual Impairment Increase in Preschoolers 2-2-2-2

“Our mission is to not only gain a better understanding of the pathophysiology of vision disorders among preschool children, but also help inform and develop evidence-based guidelines for population screening of common pediatric vision disorders,” said [Xuejuan Jiang](#), PhD, assistant professor of ophthalmology and preventive medicine at USC Roski Eye Institute and one of the lead researchers on the study.

“This research is a bellwether that visual impairment in young children can be prevented or treated with low cost solutions if we intervene at an early age,” continued Varma. “If we don’t the long-term effects of impaired vision at early childhood that can adversely impact academic and social achievements will put our future generations at a distinct disadvantage. This is a population health transformation imperative.”

Note: This study was supported by grants from the National Eye Institute, Bethesda, Md., and unrestricted grants from Research to Prevent Blindness, New York. All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

About the USC Roski Eye Institute (usceve.org)

The USC Roski Eye Institute, part of the Keck Medicine of USC university-based medical enterprise, has been a leader in scientific research and innovative clinical treatments for more than 40 years. Ranked No. 2 in National Eye Institute (NEI) research grants for academically-based ophthalmology departments and nationally ranked in *U.S. News & World Report*’s annual “Best Hospitals” issue for more than 22 years, the USC Roski Eye Institute is headquartered in Los Angeles with clinics in Arcadia, Beverly Hills and Pasadena. Faculty physicians are also the exclusive ophthalmic doctors affiliated with L.A. County + USC Medical Center (LAC+USC) and Children’s Hospital Los Angeles (CHLA).

Patients from across the country come to see the USC Roski Eye Institute experts who treat a comprehensive array of eye diseases across the life spectrum from infants to aging seniors. The USC Roski Eye Institute is known for its scientific research and clinical innovation including:

- Creator of the FDA approved Argus retinal prosthesis implant (also known as the “bionic eye”) for retinitis pigmentosa patients
- Leader in NEI eye disease research among multi-ethnic populations
- Developer of stem cell therapies for those who have age-related macular degeneration
- Discovered the gene that is the cause of the most common eye cancer in children
- Treatment for eye infections for AIDS patients
- Inventors of the FDA approved XEN stent, the most widely used glaucoma implant in the world
- Pioneers of a device for long-term intraocular drug delivery
- Creator 25 years ago and ongoing leader in OCT research
- Leading researchers of eye disease prevention and treatment as part of the Human Connectome brain mapping research

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