



Published in final edited form as:

J Glaucoma. 2021 May 01; 30(5): 369–370. doi:10.1097/IJG.0000000000001782.

Screening and Interventions for Glaucoma and Eye Health Through Telemedicine (SIGHT) Studies

C. Gustavo De Moraes, MD, PhD, MPH^{1,2}, Lisa A. Hark, PhD, RD^{1,2}, Jinan Saaddine, MD, MPH³

¹Columbia University, Department of Ophthalmology, Vagelos College of Physicians and Surgeons, 630 W. 168th St., New York, NY 10032

²Edward S. Harkness Eye Institute, Columbia University Irving Medical Center, 635 W. 165th St., New York, NY 10032

³Centers for Disease Control and Prevention, Vision Health Initiative, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, 1600 Clifton Road, Atlanta, GA 30329

Keywords

Vision screening; Telemedicine; CDC; Glaucoma; Social determinants of health

The conditions into which we are born, grow, live, learn, work, and age are referred to as social determinants of health and affect a wide range of health risks and outcomes. *Healthy People 2020*, *Healthy People 2030*, and the World Health Organization (WHO) outline five key areas for improvement of social determinants of health: (i) Health and healthcare access and utilization, (ii) education, (iii) economic stability, (iv) neighborhood and built environment, and (v) social and community context (Figure 1) (1–3). According to the WHO, social determinants of health are mostly responsible for health inequities (3). Glaucoma adversely affects communities of color which “makes these communities particularly vulnerable to vision impairment and blindness” (4,5). By targeting vulnerable populations at high-risk for glaucoma, specifically African Americans over age 40 years, Asians, older people [aged 65+ years] especially older Hispanics, those with a family history of glaucoma, and those with diabetes, we can improve detection of glaucoma.

In 2018, the Vision Health Initiative at the US Centers for Disease Control and Prevention (CDC) initiated a request for funding announcement (RFA-DP-19–004) entitled: Improving Detection and Management of Glaucoma and Other Eye Diseases Among High Risk Populations. This research supports the study of innovative strategies to better engage populations most at risk, most vulnerable, and least likely to have access to eye care

Corresponding Author: Lisa Hark, PhD, RD, Professor of Ophthalmic Sciences (Ophthalmology), Vagelos College of Physicians and Surgeons, Columbia University Irving Medical Center, Edward S. Harkness Eye Institute, 635 West 165th Street, Room 504, New York, NY 10032, lah112@cumc.columbia.edu.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

Conflicts of Interest: None of the authors have any proprietary interests or conflicts of interest related to this submission.

to detect and manage glaucoma and other eye diseases in community-based settings. The objectives of the funding are to: 1) identify and implement interventions to increase engagement, detection, and management of glaucoma and other eye diseases; 2) identify modifiable pathways and implement interventions to address the geographic disparities in engaging and reaching high-risk populations; and 3) conduct an economic evaluation of the costs and benefits of the proposed approaches. Community-based partnerships were encouraged to ensure broadest reach and ownership of the proposed interventions, maximize capacity, and sustain outcomes. These alliances also allow for efficient use of existing resources and exchange of information between experts working in various areas of public health and other sectors.

In 2019 Columbia University, University of Michigan, and University of Alabama at Birmingham received 5-years of funding to conduct their prospective research studies. Additionally, a Coordinating Center (Columbia University and Westat, Inc.) was funded to assist in overall data management, monitor communication among all sites, and provide the clinical research support infrastructure, combining the wide array of expertise of the multidisciplinary team. The three universities established the Screening and Interventions for Glaucoma and Eye Health Through Telemedicine (SIGHT) studies ([SIGHTstudies.org](https://sightstudies.org)). In this issue, three design and methodology papers are presented for the SIGHT studies and we explain how each institution adapted protocols to minimize the unprecedented disruption during the COVID-19 pandemic in 2020. These SIGHT studies are conducted in the Northeast, Midwest and the South, providing heterogeneous geographical representation and insights into best practices to improve community-based vision screenings and interventions. The innovative strategies being tested include using community health workers to conduct on-site vision screening, patient navigators and coaching using motivational interviewing to improve follow-up eye exam adherence, and a wide spectrum of telehealth delivery methods to ensure follow-up eye care for those diagnosed with glaucoma and other eye diseases. Primary and secondary outcome measures include change in visual acuity, patient reported vision-related quality of life, eye disease detection rates, and adherence to follow-up eye exams. Patient satisfaction will be evaluated after vision screenings and eye exams across the three sites. The Coordinating Center has established three collaborative working groups: Common Evaluation Measures, Economic Evaluation, and Dissemination and Publications, for multi-center initiatives.

Over the next four years, these SIGHT studies will engage populations most at risk, most vulnerable, and least likely to have access to and utilization of eye care to detect and manage glaucoma and other eye diseases in community-based settings. By establishing comprehensive protocols that have been tested and proven to have sufficient rigor, SIGHT studies can be scaled and replicated by other communities across the nation, with the aim to reduce vision impairment and blindness, as well as its burden to society.

Financial Support:

United States Centers for Disease Control and Prevention Cooperative Agreements: U01DP006435, U01DP006436. Vision Health Initiative, Division of Diabetes Translation, National Center for Chronic Disease Prevention and Health Promotion, Atlanta, Georgia.

References:

- 1). Social Determinants of Health: Know What Affects Health. 2020 Centers for Disease Control and Prevention. Available at: <https://www.cdc.gov/socialdeterminants/index.htm>. Accessed December 1, 2020.
- 2). Office of Disease Prevention and Health Promotion. (2019). Secretary's Advisory Committee on National Health Promotion and Disease Prevention Objectives for 2030. Retrieved from <https://www.healthypeople.gov/2020/About-Healthy-People/Development-Healthy-People-2030/Advisory-Committee>. Accessed December 1, 2020.
- 3). World Health Organization. Social Determinants of Health. Available at: https://www.who.int/social_determinants/en. Accessed December 1, 2020.
- 4). Ulldemolins AR, Lansingh VC, Valencia LG, et al. Social inequalities in blindness and visual impairment: a review of social determinants. *Indian J Ophthalmol* 2012;60(5):368–75. [PubMed: 22944744]
- 5). Su NH, Moxon NR, Wang A, et al. Associations of social determinants of health and self-reported visual difficulty analysis of the 2016 National Health Interview Survey. *Ophthalmic Epidemiol* 2019;27(2):93–97. [PubMed: 31658843]



Figure 1: Social Determinants of Health: Five key areas for improvement:

Five key areas for improvements in social determinants of health include: neighborhood and built environment, health and health care, social and community context, education, and economic stability.

Source: <https://www.healthypeople.gov/2020/topics-objectives/topic/social-determinants-of-health>