

CDC-Convened Panel Calls for Vision Surveillance System

Public health surveillance may be required to reduce the prevalence of vision loss and eye health disparities in the United States.

BY CALLAN NAVITSKY, ASSOCIATE EDITOR

In 2004, it was estimated that 3.3 million Americans aged 40 years or older were legally blind or had low vision.¹ In coming years, the number of individuals with eye diseases and associated vision loss is expected to increase due to the aging of the US population, the growing obesity epidemic, and the increasing prevalence of diabetes.² Vision loss affects many individuals but is not uniform across populations. In the United States, eye health disparities have been observed based on age, sex, race, and sociodemographic and geographic factors.

In Healthy People 2020, a series of health-related goals for the nation (Table 1), the US federal government identified the reduction of population disparities in vision loss and access to eye care services as major public health priorities.³ In response, the US Centers for Disease Control and Prevention (CDC) convened a panel of 14 ophthalmic researchers, clinicians, and epidemiologists from the United States, Great Britain, and Canada to address this public health challenge.

THE NEED FOR SURVEILLANCE

The CDC tasked the panel with identifying how to strengthen national and state surveillance systems to assess and monitor disparities in eye health, vision loss, and access to eye care. The panel recently published 6 broad recommendations for how a vision surveillance system should operate in a supplement to the December issue of the *American Journal of Ophthalmology*.⁴

**TABLE 1. HEALTHY PEOPLE 2020
VISION OBJECTIVES³**

- V-1: Increase the proportion of preschool children aged 5 years and under who receive vision screening.
- V-2: Reduce blindness and visual impairment in children and adolescents aged 17 years and under.
- V-3: Reduce occupational eye injuries.
- V-4: Increase the proportion of adults who have had a comprehensive eye examination, including dilation, within the past 2 years.
- V-5: Reduce visual impairment.
- V-6: Increase the use of protective eyewear in recreational activities and hazardous situations around the home.
- V-7: Increase vision rehabilitation.
- V-8: (Developmental) Increase the proportion of Federally Qualified Health Centers (FQHCs) that provide comprehensive vision health services.

In an accompanying editorial,⁵ Sheila K. West, PhD, of the Wilmer Eye Institute, and Paul P. Lee, MD, JD, of the Kellogg Eye Center, discuss how a surveillance system like those typically used for infectious diseases could be applied to chronic diseases as well. In an interview with *Retina Today*, Dr. West explained why, despite increasing acknowledgement of vision loss as a public health problem, the United States lacks a surveillance system for eye health.

“Surveillance systems for chronic conditions (like blinding eye conditions), while not new, have been slow to develop,” Dr. West said. “Surveillance systems for conditions that we want to control—like measles, HIV, or tuberculosis—are easier to argue for funding and action plans. The US does fund a National Health and Nutrition Examination Survey that is the backbone of information on the health of the nation. If the relevant agencies do not provide funds for a vision component, then the opportunity to gain information on the eye health of the nation over time is lost.”

As noted in the editorial and 7 articles included in the supplement, the panel maintains that disparities of vision loss justify using resources invested in national surveillance purposes to detect and reduce those disparities. There are effective interventions for major eye diseases, including cataract, refractive error, diabetic retinopathy, choroidal neovascularization, and glaucoma. Given that timely treatment can be provided to those in need, there should not be differential vision loss from these diseases based on race, ethnicity, sex, or socioeconomic status, the panel wrote. However, rates of underlying disease do vary based on these factors, indicating surveillance for variations in rates of vision loss may be a worthwhile public health activity.

ESTABLISHING AN EFFECTIVE SYSTEM

According to the panel, a true surveillance system is an active, dynamic process that feeds data to end users who can effect change in policy and programs. “The members of the panel felt that the goal of a surveillance system was to identify disparities in rates of visual impairment and access to eye care services that would need to be addressed by system changes,” Dr. West told *Retina Today*. “In simpler terms, a surveillance system should determine if a particular racial or ethnic or socioeconomic group had higher than expected rates of visual loss or unequal access to eye care services, with the goal of eliminating that disparity.”

The panel suggested that the CDC may be the 1 federal agency to take responsibility for monitoring, report generation, and advocacy. “Data collected is not useful unless it is analyzed towards a goal,” Dr. West explained. “We suggested that the CDC be mandated to analyze and publish the surveillance information towards the goal of determining if disparities exist, and if so, why.”

In addition, information without action is equally useless, Dr. West said. The CDC has connections with state health departments and other health agencies, which, according to Dr. West, must all engage in an ongoing feedback system of changing access to eye

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–Sheila K. West, PhD

care systems to reduce disparities. “The panel recognized that this part of the feedback is in quite a state of flux at present, but, without identification of a problem, methods to address the problem will not be developed.”

RECOMMENDED STRATEGIES

The panel identified 6 strategies that would improve vision surveillance, as summarized below:

No. 1: Link collection and analyses with ongoing public health interventions to improve eye health disparities. A feedback loop should contribute to a systemic approach to link public health surveillance data collection with public health initiatives to reduce disparities in vision loss.

No. 2: Effectively assess vision loss. The panel concluded that vision loss should be measured using both performance-based and self-reported methods. Standardized measures of visual acuity, contrast sensitivity, and self-reported function would allow comparability across surveys and allow the integration of data into a system, the report said.

No. 3: Effectively assess utilization of eye care. Although panel members recognized that vision care access and utilization can be measured using self-report and analysis of claims databases, they noted that access to eye care is measured in fewer than half of the US states. One method of effectively assessing utilization of eye care may be linked electronic health care records, they wrote.

No. 4: Include defined populations to assess the disparities in vision loss and in utilization of eye care services. Surveillance systems should capture racial, ethnic, gender, socioeconomic (income and education), and geographic location differences (both region and urban-rural) in vision status, as well as access to and use of vision health services.

No. 5: Include and sustain ophthalmic/vision measurement and question components within

national surveys. It is necessary to continuously obtain national estimates and trends on visual acuity, refractive errors, and age-related eye diseases such as diabetic retinopathy and age-related macular degeneration. “Innovative strategies to make the best use of electronic medical records that may provide immediate access to vision and eye care data should be explored in the coming years,” the authors wrote.

No. 6: Create a system among federal agencies and other stakeholders to monitor the nation’s eye health and eye care utilization for trends in disparity. This system would aim to standardize the questions regarding self-reported vision and vision functioning that survey participants are asked, promote the implementation of vision surveillance, and offer input to providers and other users regarding how to implement the policies and programs that help reduce disparities.

CONCLUSION

In the United States, surveillance for disease outbreaks has served as a useful public health tool. Given the less acute nature and longer duration of chronic conditions, such as the major eye diseases causing vision loss, periodic national surveys as well as classic surveillance systems could be considered for surveillance purposes, the study authors wrote.

“A vision surveillance system could provide important data to monitor the progress of public and private efforts to reduce visual loss,” Dr. West said. “When integrated with the delivery system in a feedback loop, a vision surveillance system could be a key component of national efforts to accomplish the vision-related goals of Healthy People 2020.” ■

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4. Strengthening Surveillance of Disparities in Vision and Eye Health in the United States. John E. Crews JE, Saaddine JB, eds. *Am J Ophthalmol*. 2012;154(6)(suppl).

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