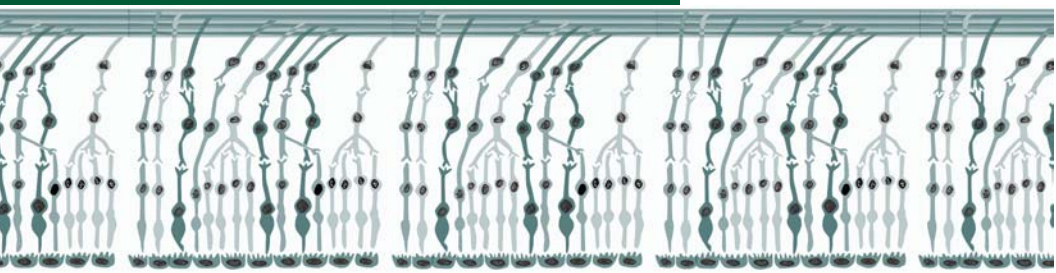

Vision Problems in the United States: Recommendations for a State Public Health Response

CHRONIC DISEASE DIRECTORS

Vision Problems in the United States:

Recommendations for a State Public Health Response

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The Scope and Impact of the Problem

In 2004 the Eye Disease Prevalence Research Group sponsored by both the National Eye Institute and Prevent Blindness America produced the most accurate estimates to date of the burden of eye disease in the United States.[1] Based on several community studies, the figures describe a very substantial burden of disease along with important disparities. Age-related eye diseases include several well-known eye problems including cataract, glaucoma, macular degeneration, and diabetic retinopathy.[2] All of the vision-threatening conditions have been found to increase as people age. More than 3.4 million Americans aged 40 years and over are now visually impaired (including those who are blind), and the rates of severe visual impairment and blindness increase markedly with age.[3] As the American population ages over the next three decades, the number will double. The leading cause of blindness in whites is age-related macular degeneration accounting for over 50% of cases; while, among African Americans, cataract and glaucoma account for more than 60% of blindness. One in every 12 individuals with diabetes age 40 years and over has vision-threatening diabetic retinopathy, and the epidemic increases in diabetes in this country now affect young individuals whose future health and vision are in jeopardy.[4]

Much of the vision loss from age-related eye disease can be prevented. Early detection of glaucoma and diabetic retinopathy can prompt follow-up treatment to preserve vision, and cataract surgery is very effective in restoring vision. There are many promising approaches to macular degeneration currently being studied. Yet people are not receiving treatment in a timely manner. Regular comprehensive eye examinations are essential to detect the conditions early. Many elderly individuals do not realize that a simple test of their ability to read an eye chart is not sufficient. In a community study in Baltimore, the investigators estimated that half of the cases of blindness could have been prevented.[5] The elderly face unique challenges accessing supportive services for low vision. Rehabilitation services are organized to return individuals to work and reaching homebound elderly is not a priority in their funding. But supportive services for the elderly with low vision can improve the quality of life and enable people to live independently.

The impact of age-related eye disease is substantial and wide-ranging, especially the medical costs for treatment. Yearly treatment costs for cataract alone estimated from Medicare data exceed 3.4 billion dollars.[6] However, cataract treatment costs account for only about 60% of eye costs to Medicare. In a group of Medicare patients followed over a decade, almost half the survivors developed either glaucoma, cataract or macular degeneration according to the claims submitted.[7] Unfortunately, many who would benefit from treatment do not receive it. For example, un-operated cataract was found to be a significant cause of blindness in African Americans.[8] Without regular comprehensive eye examinations, diseases like glaucoma go undetected and untreated as visual loss progresses. In addition, it is difficult to estimate expenditures for supporting those with low vision to live independently. But providing nursing home care for those who are unable to function on their own is very costly.

The consequences of visual impairment to the community, family and individual extend far beyond the costs of medical and support care. For example, driving with visual impairment is a safety risk for the entire community. Although the data are sparse, decreased visual acuity, glare recovery and problems with visual fields have been associated with increased numbers of traffic accidents and violations.[9] But automobile accidents are not the only concern. Visual impairment is a leading cause for falls in the elderly. Injuries from falling can be fatal, or they can lead to serious medical complications such as pneumonia. Those injured from falling or those who suffer repeated falls may require nursing home placement or other arrangements for daily care adding to the responsibilities of family. As a consequence, people who had been able to live on their own can no longer be independent. Visual impairment can be devastating to an individual. Quality of life suffers, and it is not surprising that severe depression is often found among patients with macular degeneration.[10] Use of low vision services among the elderly has been limited, and many do not benefit from resources and services that are readily available in many communities.

Finally, it has been difficult to monitor and track blindness and visual impairment, particularly among the elderly.[11] Elderly individuals with limited eyesight are not likely to attend the examinations commonly used to assess chronic conditions in national studies. Age-related eye diseases are not always diagnosed. Thus, individuals may not be able to report accurately their eye health history or the extent of visual impairment when asked by telephone about their health. In the past, estimates of visual impairment have been based on the numbers of people using rehabilitation services. Elderly patients with visual impairment who do not receive services are not included in such estimates.

Opportunities for Public Health

Vision loss from age-related eye disease meets the criteria for a public health problem. It is common, costly, and the prevalence is increasing. Vision loss is a threat to the well-being of the entire community. There are effective treatment strategies to prevent visual loss and to maintain or increase the quality of life among those who have suffered irreversible visual impairment. Partnerships with groups like Prevent Blindness America can be quite valuable in reaching people in need of education, diagnosis and treatment.

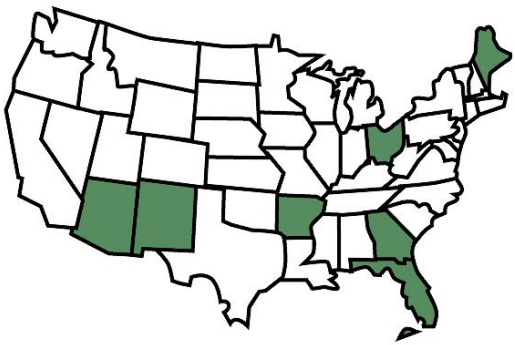
The Vision Loss/Blindness Prevention Project 2004

In 2004, the Chronic Disease Directors (CDD) established a Vision Loss/Blindness Prevention Committee to assess current state-level activities for preventing age-related eye disease and blindness and to identify potential roles for public health in this challenging area. This committee was comprised of people representing state health department chronic disease programs, the Division of Diabetes Translation in the Centers for Disease Control and Prevention and Prevent Blindness America. Vision conservation activities and opportunities were identified in selected states through a series of site visits. The group developed a needs assessment and site visit protocol

to gather information about current programs and challenges faced by public health officials, state task forces and advisory groups, local community health services, programs providing services to the elderly, rehabilitation agencies, and voluntary organizations such as Prevent Blindness America Affiliate Chapters, Lions Clubs and other organizations with an interest in vision conservation. In addition, the assessment specifically sought input about future directions including the establishment of state public health programs, barriers to program development, and the state need for vision programs.

State Assessments

Invitations were sent to each state chronic disease director and, in those states where there was a Prevent Blindness America Affiliate, the chief executive officers were invited to participate and to identify an individual to coordinate the site visit at the state level. Persons targeted for participation included representatives of: community agencies (e.g. PBA and Lion's clubs); state Medicaid agencies; children's vision services; state diabetes and chronic disease programs; services for the visually impaired (rehabilitation services); and state eye professional associations.



Participants were asked to provide an overview of the services provided by their agencies and to recommend future directions. The one-day site visits were conducted at the state health departments in an open, free-form manner which encouraged discussion and dialogue among the participants. Many of the groups participating expressed their appreciation for an opportunity to understand what other agencies in the state were doing and how they might better coordinate services. After each site visit and additional input from those unable to attend, a preliminary report was submitted to each state coordinator for review and feedback. Final executive summaries were prepared and shared with state organizations and participants.

Blindness Prevention Site Visit Participants							
Agency/Office	**Arizona**	**Arkansas**	**Florida**	**Georgia**	**Maine**	**New Mexico**	**Ohio**
Chronic Disease Dir/Staff	X	X	X	X	X	X	X
Diabetes Program staff	X	X	X	X	X	X	X
State Children's Health Services		X	X	X	X	X	X
State Aging Services		X	X	X	X	X	X
Local Health Departments	X						
PBA Affiliates	X		X	X	X		X
Lions Clubs	X		X			X	
American Diabetes Association	X	X					
Rehabilitation Services	X		X	X	X	X	
State Medicaid Agency			X			X	X
State Medicare Agency	X					X	
Quality Improvement Org		X					
Veteran's Administration	X						
Indian Health Service	X					X	
Primary Care	X			X	X		
Community Health Centers	X					X	
Managed Care Organization			X	X			
Optometric Assoc/ODs		X		X	X	X	X
Ophthalmological Soc/MDs	X	X			X	X	X
University Ophthalmology	X		X	X			
Gov's Council on Blindness	X						
Private Foundations	X						
Eye bank				X			

Highlights from State Assessments

- Current public health programs
- Vision health planning
- Policies/Rules/Regulations
- Program funding:
- Local community health services
- State and local data
- Future directions

Current Public Health Programs

The only state chronic disease program with experience in vision conservation was the State Diabetes Prevention and Control Program. One of the goals of each state program is to increase the number of persons with diabetes who receive a yearly comprehensive eye examination.

Vision Health Planning

Several statewide councils related to vision existed but their mandates differed. There was little evidence of systematic, coordinated planning across the range of vision conservation services that include screening, examination, diagnosis, treatment, rehabilitation, and manpower.

Policies/Rules/Regulation
Medicaid coverage policies for eye care did not always distinguish between diagnosis and ongoing treatment for age-related eye disease and services for refraction.

Program Funding
Rehabilitation agencies receive funding primarily to meet the needs of those who can be returned to employment, but there is a large and growing case load of elderly who need support services. Many of these people are put on waiting lists to receive services. The Veterans Administration has developed comprehensive outpatient assessment and regional inpatient treatment centers to support and train visually impaired veterans.

Local Community Health Services
Specialty eye care for diagnosis and ongoing treatment for age-related eye disease is generally not available through federally-qualified community health centers. Voluntary programs through the eye specialty societies do not cover surgical facility fees. The burden of volunteering often falls inordinately on the few eye care specialists who practice in communities that are underserved. Some communities are utilizing forms of telemedicine for eye examinations, but obtaining follow-up treatment for conditions diagnosed remotely remains a problem.

State and Local Data
Most state and local agencies have little data about age-related eye disease.

Future Direction
Most participants at the site visits recognized the need for coordination between agencies for aging and rehabilitation, eye care specialists, primary care, and voluntary agencies, but some felt that vision conservation might be best approached by targeting specific diseases, while others felt that a coordinated effort toward all age-related eye diseases held the most promise.

Recommendations:

Collecting and reporting data about low vision
Increasing public and professional awareness
Coordinating vision conservation statewide
Educating professionals about diagnosis, treatment and support for low vision
Translating new studies and technologies into community practice

The advisory committee identified common issues and barriers after reviewing the experience from the site visits and the reports from each state. Then, the committee formulated recommendations to Prevent Blindness America and to the Centers for Disease Control and Prevention (CDC) about the potential role for state public health agencies in vision conservation. For several recommendations the committee also identified priority activities consistent with the essential public health services defined by CDC. As part of this activity a review of age-related eye diseases and their impact will be published in an upcoming issue of **Preventing Chronic Diseases,** an electronic journal published by the CDC.

The following key recommendations and priority activities were identified to address the growing problem of age-related eye diseases in America:

I. Monitoring and Investigating Vision Disorders and Services

Collect, analyze and report state- and/or community-specific data on age-related eye disease prevalence in order to develop programs and efficiently allocate public health resources.

Priority actions:

- Adopt the Behavioral Risk Factor Surveillance System (BRFSS) vision module and analyze and disseminate results to community-based public health programs.
- Obtain and analyze rehabilitation center data to describe the distribution and access to vision services.
- Analyze state-level data available to identify the specific age-related eye disease problems experienced in each state.
- Map the location of optometrists, ophthalmologists, and essential services to identify underserved regions.

II. Inform, Educate, and Empower People about Eye Health Issues

Conduct or facilitate public awareness campaigns on age-related eye disease.

Priority action:

- Convene vision-care partners to develop and implement a public awareness plan to inform adults about the necessity for regular eye examinations to detect age-related eye diseases at a stage when visual loss can be prevented.

III. Mobilize Partnerships to Identify and Solve Vision Conservation Problems

Convene the various vision partners to coordinate services and to develop state-level vision conservation plans with specific priorities based on the Healthy Vision 2010 objectives, in collaboration with private and not-for-profit vision care organizations and provider groups

Priority actions:

- Provide a forum for coordinating the efforts of voluntary and indigent programs to improve access to screening, treatment and low vision support for all state residents, including high risk populations and to avoid duplication of services.

Improve communication and coordination between eye care providers and low vision/rehabilitation providers to increase early referral and improve outcomes.

IV. Assure a Competent Public and Personal Workforce for Vision Conservation

Facilitate professional education interventions on the standards for vision screening, treatment,and rehabilitation

Priority actions:

- Partner with medical education providers to include age-related eye disease in conferences including the need for early and regular eye exams and vision rehabilitation.

- Coordinate training to vision screeners using evidence-based techniques and referral guidelines that are consistent with national standards.

- Review vision screening programs to ensure that screening methods and referral and follow-up guidelines used are effective.

V. Research for New Insights and Innovative Solutions to Eye Health Problems

Assist in evaluating new techniques such as telemedicine and in translating significant clinical trials into community practice

Priority actions:

- Partner with organizations introducing telemedicine technologies to evaluate the effectiveness at the community level.

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Conclusion

After assessing the vision conservation efforts in seven states, the Vision Loss Blindness Prevention Committee identified numerous public health opportunities to address the growing problem of visual impairment and blindness. The recommendations are a "call to action" for public health to prevent morbidity from vision loss and blindness by increasing public awareness; integrating and coordinating timely screening, diagnosis, and treatment programs in communities; ensuring continuity between medical treatment and supportive care for eye conditions associated with aging; and monitoring the status of visual impairment, using methods that can identify people affected, the extent of their visual impairment, and the services they receive.

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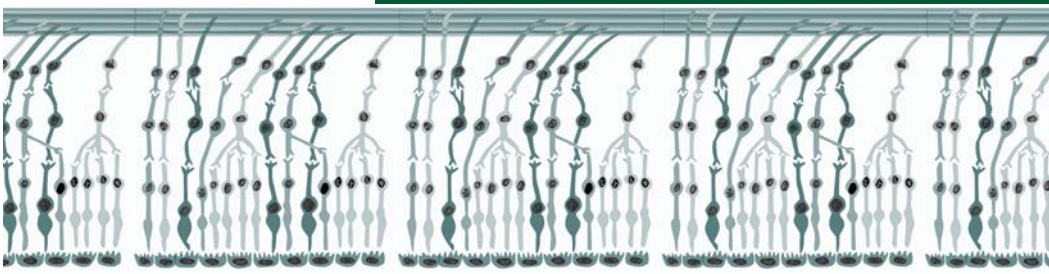

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