Making Eye Health a Population Health Imperative

Vision for Tomorrow
Health and Medicine Division

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Statement of Task

Examine the core principles and public health strategies to reduce vision impairment and promote eye health in the U.S.

• Describe limitations and opportunities to improve surveillance;
• Reduce vision and eye health disparities;
• Promote evidence-based strategies to improve knowledge, access, and utilization to eye care;
• Identify comorbid conditions and characterize their impact;
• Promote health for people with vision impairment; and
• Examine the potential for public and private collaborations to elevate vision and eye health as a public health issue.
The Continuum of Eye and Vision Health

Vision Loss

Optimal eye and vision health
Subclinical structural changes or abnormalities
Clinically observable vision impairment
Functional vision impairment, including blindness

Vision Impairment
# Defining the Problem in the U.S.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vision Problems (over 40 years)</td>
<td>90 million of 142 million*</td>
</tr>
<tr>
<td>Uncorrectable Vision Impairment</td>
<td>6.4 million</td>
</tr>
<tr>
<td>Uncorrected Refractive Error</td>
<td>8.2 to 15.9 million</td>
</tr>
<tr>
<td>Uncorrected Cataracts</td>
<td>1.2 million</td>
</tr>
<tr>
<td>Eye injuries</td>
<td>2.5 million/year</td>
</tr>
<tr>
<td>Direct and Indirect Costs</td>
<td>$139 billion</td>
</tr>
</tbody>
</table>

**Sources:** Owens and Mutter, 2011; Prevent Blindness, 2012; Varma et al., 2016; Wittenborn and Rein, 2016; Wittenborn et al., 2013.

**Note:** * This number was corrected post release.
FIGURE 2-2 Estimated numbers of people with uncorrectable visual impairment (not including blindness) age 50 and older in U.S. between 2015 and 2050.
SOURCE: Varma et al., 2016, Figure 1.
Impact of Vision Loss

- Reduces quality of life and independence
- Increased risk of falls, fractures, injuries, and limited mobility
- Increased risk for depression, anxiety, and other psychological problems
- Increased prevalence of cognitive impairment and hearing impairment among visually impaired
- Amplifies the negative effects of other conditions
- Complicates the management of other conditions
- Other conditions affect the management of eye disease

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#EyeHealth
A Population Health Approach

IMPROVE POPULATION EYE AND VISION HEALTH

Primordial Prevention
- Improve health by targeting behaviors and social and physical environments.

Primary Prevention
- Support, educate, and promote healthy eye and vision behaviors.

Secondary Prevention
- Facilitate presymptomatic identification of eye diseases and treatments.

Tertiary Prevention
- Preserve and enhance the health and function of individuals with vision impairment.

ACHIEVE HEALTH EQUITY

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Examples of Possible Determinants to Target

**Individual Behavior**
- **Behaviors**: Campaigns to increase use of protective eyewear
- **Community**: Programs to reduce obesity and diabetes
- **Live/Work**: Programs to improve access to parks and activities to reduce screen time
- **Broad Factors**: Regulations restricting public smoking and tobacco use

**Social Determinants of Health**
- **Behaviors**: Interventions to reduce high school dropout rates
- **Community**: Programs to promote health literacy in multiple settings
- **Live/Work**: Building codes that promote eye-healthy environments
- **Broad Factors**: Policies to support better income equality and reduce unemployment

**Promoting Care Quality**
- **Behaviors**: Initiatives to promote clinician and patient adherence to a single set of evidence-based guidelines
- **Community**: Assessment of vision health in community health needs assessment
- **Live/Work**: Policies to ensure accommodations for blind employees
- **Broad factors**: Policies to require interdisciplinary and cultural competency training for eye care providers

**Promoting Care Access**
- **Behaviors**: Programs to educate high-risk groups on the need for and availability of vision care services
- **Community**: Programs to promote access to and follow up of vision screening in schools
- **Live/Work**: Policies to support employer-subsidized vision insurance
- **Broad Factors**: Policies to fund vision services in community health centers
A Population Health Model for Action for Eye and Vision Health Across the Lifespan

CORE PRINCIPLES

• Adequately Resourced
• Collaborative
• Community Tailored
• Culturally Competent
• Evidence-based
• Integrated
• Population-centered
• Standardized
Recommendation 1.

The Secretary of HHS should issue a call to action to achieve a reduction in the burden of vision impairment across the lifespan of people in the United States. Goals include to:

- eliminate correctable and avoidable vision impairment by 2030,
- delay the onset and progression of unavoidable chronic eye diseases and conditions,
- minimize the impact of chronic vision impairment, and
- achieve eye and vision health equity by improving care in underserved populations.
Recommendation 2.

The Secretary of HHS, in collaboration with other federal agencies and departments, nonprofit and for-profit organizations, professional organizations, employers, state and local public health agencies, and the media, should launch a coordinated public awareness campaign to promote policies and practices that encourage eye and vision health across the lifespan, reduce vision impairment, and promote health equity.
Recommendation 3.

CDC should develop a coordinated surveillance system for eye and vision health in the U.S. Convene a task force comprising government, nonprofit and for-profit organizations, professional organizations, academic researchers, and the health care and public health sectors to design system that includes:

- Developing and standardizing definitions for population-based studies, particularly definitions of clinical vision loss and functional vision impairment;
- Identifying and validating surveillance and quality-of-care measures to characterize vision-related outcomes, resources, and capacities within different communities and populations;
- Integrating eye-health outcomes, objective clinical measures, and risk/protective factors into existing clinical-health and population-health data collection forms and systems; and
- Analyzing, interpreting, and disseminating information to the public in a timely and transparent manner.
Recommendation 4.

HHS should create an interagency workgroup … to develop a common research agenda and coordinated eye and vision health research and demonstration grant programs that target leading causes, consequences, and unmet needs of vision impairment. Agenda should include:

- Population-based epidemiologic and clinical research on the major causes and risks and protective factors for vision impairment, with a special emphasis on longitudinal studies of the major causes of vision impairment;
- Health services research, focused on patient-centered care processes, CER and economic evaluation of clinical interventions, and innovative models of care delivery to improve access to appropriate diagnostics, follow-up treatment, and rehabilitation services, particularly among high-risk populations;
- Population health services research to reduce eye and vision health disparities, focusing on effective interventions that promote eye healthy environments and conditions, especially for underserved populations;
- R&D on emerging preventive, diagnostic, therapeutic, and treatment strategies and technologies, including efforts to improve the design and sensitivity of different screening protocols.
Recommendation 5.

HHS should convene one or more panels—comprising members of professional organizations, researchers, public health practitioners, patients, and other stakeholders—to develop a single set of evidence-based clinical and rehabilitation practice guidelines and measures that can be used by eye care professionals, other care providers, and public health professionals to prevent, screen for, detect, monitor, diagnose, and treat eye and vision problems. These guidelines and supporting evidence should be used to drive payment policies, including coverage determinations for corrective lenses and visual assistive devices following a diagnosed medical condition (e.g., refractive error).
Recommendation 6.

To enable the health care and public health workforce to meet the eye care needs of a changing population and to coordinate responses to vision-related health threats, professional education programs should proactively recruit and educate a diverse workforce and incorporate prevention and detection of visual impairments, population health, and team care coordination as part of core competencies in applicable medical and professional education and training curricula. Individual curricula should emphasize proficiency in culturally competent care for all populations.
Recommendation 7.

State and local public health departments should partner with health care systems to align public health and clinical practice objectives, programs, and strategies about eye and vision health to:

- Enhance community health needs assessments, surveys, health impact assessments, and QI metrics;
- Identify and eliminate barriers within health care and public health systems to eye care, especially to comprehensive eye exams, appropriate screenings, and follow-up services, and items and services intended to improve the functioning of individuals with vision impairment;
- Include public health and clinical expertise related to eye and vision health on oversight committees, advisory boards, expert panels, and staff …;
- Encourage physicians and health professionals to ask and engage in discussions about eye and vision health in patients’ office visits; and
- Incorporate eye health and chronic vision impairment into existing QI, injury and infection control, and behavioral change programs related to comorbid chronic conditions, community health, and elimination of health disparities.
Recommendation 8.

To build state and local public health capacity, the CDC should prioritize and expand its vision grant program, in partnership with state-based chronic disease programs and other clinical and non-clinical stakeholders, to:

• Design, implement, and evaluate programs for the primary prevention of conditions leading to visual impairment, including policies to reduce eye injuries;
• Develop and evaluate policies and systems that facilitate access to, and utilization of, patient-centered vision care and rehabilitation services, including integration and coordination among care providers; and
• Develop and evaluate initiatives to improve environments and socioeconomic conditions that underpin good eye and vision health and reduce eye injuries in communities.
Communities should work with state and local health departments to translate a broad national agenda to promote eye and vision health into well-defined actions. These actions should encourage policies and conditions that improve eye and vision health and foster environments to minimize the impact of vision impairment, considering the community’s needs, resources, and cultural identity.
Recommendation 9 continued.

These actions should:

• Improve eye and vision health awareness among different social groups within communities;
• Engage community organizations and groups to promote eye and vision health awareness in daily activities;
• Establish and enforce laws and policies intended to promote eye safety and the functioning of people with vision impairment;
• Identify the need for, and community-level barriers to, vision-related services and resources in their communities; and
• Adopt policies and create community networks that support the design of built environments and the establishment of social environments that promote eye and vision health and independent functioning.
THANK YOU

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