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Public Health Pathways for Vision Loss Prevention

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Executive Summary

Soaring rates of noncommunicable diseases (NCDs), such as cardiovascular disease, diabetes, and obesity, have extensive health and economic implications globally. In recognition of their global impact, NCDs are a central focus of the 2025 United Nations (UN) General Assembly and intrinsically linked to many of the 2030 Sustainable Development Goals (SDGs).

Vision loss is closely tied to chronic disease—acting as both a consequence and a compounding factor. Diabetes, hypertension, and cardiovascular disease can lead to serious eye conditions, such as diabetic retinopathy (DR) and glaucoma. Good eye health is critical to healthy aging and longevity, as the prevalence of blindness and vision loss increases with age. As populations age and chronic disease rates rise, the burden of vision loss is expected to grow by more than 60 percent by 2050, placing additional strain on families, communities, and health systems.

More than 2.2 billion people worldwide experience vision impairment or loss, impacting their physical and mental health. In at least one billion of these cases, vision impairment could have been prevented or has yet to be addressed. Among these one billion people, the main conditions causing distance vision impairment or blindness are cataracts, uncorrected refractive errors (URE), age-related macular degeneration (AMD), glaucoma, and DR.[1]

Common barriers to eye health include low health literacy, lower socioeconomic status, remote geographical location, lack of access to care, and lack of patient engagement in care. To examine how these challenges manifest globally, this report by Milken Institute Public Health highlights case studies from the US, Germany, Japan, and China. These examples reflect shared trends, such as demographic aging, gaps in socioeconomic status, and the growing prevalence of chronic disease.

Addressing preventable vision loss is a critical opportunity to improve overall health outcomes, reduce health-care costs, and promote whole-person care. This report outlines four key actions for policymakers, public health leaders, and community stakeholders to close care gaps, strengthen prevention, and ensure vision health is embedded in whole-person care:

Leverage people-centered designed approaches to eye health.

Prioritize investments in eye health research and innovation.

Improve eye health literacy through integrated health ecosystem communication.

Promote healthy behaviors that impact eye health.

Protecting vision is not only essential to eye care. It is a powerful and often overlooked lever for advancing global public health. By integrating eye health into chronic disease prevention and management, health systems can deliver more effective, sustainable care for the future.

Introduction

The growing chronic disease epidemic accounts for roughly 75 percent of all deaths globally, with estimated costs expected to reach USD$47 trillion by 2030.[2] NCDs such as cardiovascular disease, diabetes, and obesity are driving this burden, diminishing quality of life, increasing economic strain, and placing unprecedented pressure on health systems worldwide. In recognition of their global impact, NCDs are a central focus of the 2025 UN General Assembly and intrinsically linked to many of the 2030 SDGs. As urgency grows, it is critical to understand the full scope of their consequences and the pathways through which they affect global whole-person health.

When left unmanaged, chronic diseases can lead to serious and often irreversible complications. They also frequently intersect with one another, compounding risks and worsening individual health outcomes while driving up health-care costs. For example, uncontrolled diabetes can cause kidney failure, nerve damage, cardiovascular events, and vision loss. These outcomes are often avoidable through primary prevention, which reduces disease onset, and secondary prevention, which focuses on early detection and timely management. Strengthening both approaches is essential to reducing the long-term burden of chronic disease.

A key downstream effect of chronic disease is preventable vision loss, which impacts more than one billion people worldwide. Conditions like retinopathy, glaucoma, and cataracts are closely linked to chronic illnesses such as diabetes and hypertension. Vision loss not only diminishes quality of life but also complicates disease management by making medication adherence and health-care access difficult. As chronic disease rates rise, the impact of vision impairment will grow, further straining communities and health systems.

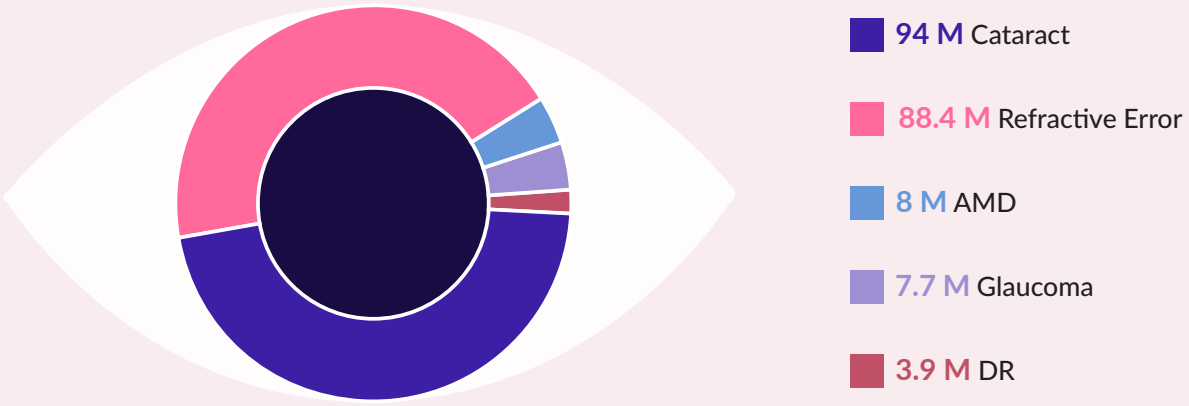
Furthermore, good eye health is a critical component of healthy aging and longevity. The prevalence of blindness and vision loss increases with age: Visual impairment triples with each decade beyond age 40 and rapidly increases after age 75.[3] Because longer lifespans increase the risk of both chronic disease and vision problems, the dual burden will accelerate as the world's population gets older, necessitating integrated, person-centered care.

Despite the scale and impact, vision loss remains under-addressed in holistic chronic disease prevention and management approaches. To address these intersecting issues, the Milken Institute Public Health team sought to better understand the global vision loss landscape and barriers to increased access to prevention and care. This report outlines key findings and identifies recommendations for actions to address preventable, noncommunicable causes of vision loss. Building on the team's extensive work on chronic disease prevention and management, this report highlights how focusing on vision health is critical to advancing broader integrated, upstream solutions for healthier lives.

Global Vision Loss Landscape

More than 2.2 billion people worldwide experience vision impairment or loss, impacting their physical and mental health. In at least one billion of these cases, vision impairment could have been prevented or has yet to be addressed. Among these one billion people, the main conditions causing distance vision impairment or blindness are cataracts, UREs, AMD, glaucoma, and DR (shown in Figure 1).[4]

Figure 1: Global Prevalence of Conditions Causing Preventable Distance Vision Impairment



Source: Milken Institute (2025), adapted from World Health Organization

Vision loss can disrupt an individual's independence, employment, and sense of community by changing routines, isolating them from loved ones, and leading to depression.[5] Loss of vision can exacerbate or put people at risk for heart disease, stroke, type 2 diabetes, depression, anxiety, and dementia.[6] While everyone who lives long enough will experience at least one eye condition in their lifetime, if detected early, many can be treated or the progression significantly slowed.[7] Over 90 percent of vision impairment worldwide is avoidable, yet globally, an estimated 802 million people over 50 years old live with preventable vision loss but have no access to eye care.[8]

Many chronic diseases can damage the delicate blood vessels and tissues in the eyes, leading to DR, hypertensive retinopathy, and AMD. DR is a common complication of uncontrolled diabetes and is one of the leading causes of blindness in working-age adults. The prevalence of vision loss and major eye diseases is about two to seven times higher in people with chronic kidney disease than in people without it.[9] Hypertension, obesity, metabolic syndrome, and diets high in saturated fats increase the risk of several eye diseases through systemic inflammation and vascular stress.

Monitoring eye health is not only important for vision loss, but it also plays a crucial role in monitoring other chronic conditions. An eye exam allows for visual examination of blood vessels in the back of the eye without an invasive procedure, potentially detecting diabetes, hypertension, and neurological conditions, such as dementia. Despite these intersectional chronic disease risks, much of the associated vision loss is preventable through early diagnosis and intervention.

> *"Eyes are windows to overall health"*
>
> – Expert ophthalmologist and research scientist

It is estimated that addressing preventable vision loss could yield economic benefits of USD$411 billion annually.[10] However, with a population that is both aging and getting sicker, this economic benefit will likely grow, as vision loss is expected to increase by 63.6 percent by 2050.[11] Globally, the annual cost of potential productivity losses from vision loss and blindness is USD$410.7 billion, or 0.3 percent of global gross domestic product.[12] Furthermore, in many countries, workers leave the workforce or decrease their participation to take care of their visually impaired parents, increasing the economic burden on their families and the larger economy.

In 2013, the World Health Organization launched a global action plan for universal eye health. This plan aimed to target a 25 percent reduction in global preventable vision loss in adults over the age of 50 by 2019. However, this target was not met due to health systems' struggle to keep up with the growing disease burden. Demand for eye care will only increase in the coming years due to aging populations and the rise of chronic diseases.

Moving forward, all UN member states have adopted an agreement to target eye care for all by 2030, identifying eye health as a priority. This agreement calls for new eye care targets to be included in the next SDG review, urges investment through targeted finances, and requests the UN to incorporate eye health into its work in the United Nations Children's Fund and UN Women.

Beyond the specific eye care targets for review in SDG 3 on good health and well-being, eye health is related to a variety of other SDGs, such as 1: No Poverty, 4: Quality Education, 8: Decent Work and Economic Growth, 10: Reduced Inequalities, and 17: Partnerships for the Goals. Using a public health approach, eye health prevention, screening, and treatment must be prioritized throughout global health-care settings. Public health interventions that integrate eye health into chronic disease prevention and care can lead to better overall health outcomes, making protecting vision critical for not only eye care but also whole-person health.

Table 1 details the leading noncommunicable causes of vision loss, with aging and chronic diseases as significant risk factors. Although URE is a major cause of visual impairment and blindness globally and significantly raises the risk of other eye conditions, URE can be easily diagnosed and corrected and is not necessarily linked to chronic diseases. Therefore, URE is not detailed in the chart below. Table 1 further explains the relevant risk factors, prevention considerations, screening techniques, and treatments for each cause of vision loss.

Table 1: Leading Noncommunicable Conditions Causing Vision Loss

Age-Related Macular Degeneration (AMD): Damage to the central part of the retina responsible for detailed vision that leads to dark patches, shadows, or wavy distortions of the central vision. There are two main types: dry AMD, the more common and slower-progressing form, and wet AMD, which is less common but more severe and progresses rapidly. While there is no cure, early detection and treatment can slow progression and preserve vision.	
Risk Factors	• Age: >55 years • Family history of AMD • European descent • Female sex • Hypertension, atherosclerosis, high cholesterol, diabetes, and obesity • Current or previous smoker
Prevention	• Receive regular eye exams • Eat a diet rich in fruits, vegetables and whole grains, emphasizing vitamins A, C, and E; zinc; and omega-3 fatty acids • Maintain regular physical activity • Avoid smoking • Manage blood pressure, cholesterol, diabetes, and obesity
Screening Techniques	**Amsler grid:** used to screen for distorted or blank spots **Visual acuity testing:** typically done using a Snellen chart, which has rows of letters decreasing in size **Fundus exam:** eye drops are used to dilate the pupils to examine the macula and retina **Fundus photography:** imaging techniques for the back of the eye either with pupil dilation or without (using non-mydriatic cameras) **Optical coherence tomography (OCT):** noninvasive imaging technique that provides high-resolution, cross-sectional retinal images
Treatments	**AREDS 2 supplements:** containing vitamins C and E, zinc, copper, lutein, and zeaxanthin **Anti-vascular endothelial growth factor (anti-VEGF):** injections to inhibit the formation of new blood vessels behind the retina **Laser therapies:** thermal laser used to destroy abnormal blood vessels

Table 1: Leading Noncommunicable Conditions Causing Vision Loss *Continued*

Cataracts: Clouding of the eye's natural lens, which causes vision to become blurry, dim, or hazy, and may lead to increased sensitivity to glare or difficulty seeing at night. While early symptoms can be managed with glasses or brighter lighting, the only definitive treatment is surgical.	
Risk Factors	• Age: >60 years • Family history of cataracts • Diabetes, hypertension, and obesity • Current or previous smoker • Excessive alcohol consumption • Eye injuries • Taking steroids for long periods of time
Prevention	• Receive regular eye exams • Eat a diet rich in fruits, vegetables, and whole grains, emphasizing vitamins C, E, and A; lutein; and zeaxanthin • Maintain regular physical activity • Avoid smoking • Manage blood sugar, blood pressure, and cholesterol • Wear ultraviolet (UV)-protective sunglasses and hats • Limit or avoid excessive alcohol consumption • Avoid unnecessary or prolonged use of steroids
Screening Techniques	**Visual acuity testing:** typically done using a Snellen chart, which has rows of letters decreasing in size **Slit-lamp exam:** a microscope with a bright light is used to examine the front of the eye, including the lens, for signs of clouding or opacities **Fundus exam:** eye drops are used to dilate the pupils to examine the lens and back of the eye
Treatments	**Phacoemulsification:** the most common surgical technique, using ultrasound to break up and remove the cataract before replacing the lens with a clear artificial intraocular lens **Femtosecond laser-assisted cataract surgery:** an advanced surgical option using laser technology for precise incisions and lens fragmentation before replacing the lens with a clear artificial intraocular lens

Table 1: Leading Noncommunicable Conditions Causing Vision Loss *Continued*

Glaucoma: Progressive damage to the optic nerve, often caused by fluid buildup. For the most common type, open-angle glaucoma, there are often no obvious symptoms in the early stages. Vision loss first occurs in the periphery before slowly progressing to severe impairment. Though treatments can slow progression, they are unable to reverse any vision loss once it has occurred, making early detection critical.	
Risk Factors	• Age: >40 years • Family history of Glaucoma • Ocular hypertension (higher than normal eye pressure) • African, Hispanic, or Asian descent • Diabetes, hypertension, atherosclerosis, and obesity • Taking steroids for long periods of time • Eye injuries
Prevention	• Receive regular eye exams • Eat a diet rich in fruits, vegetables, and whole grains, emphasizing vitamins A, C, and E; zinc; and omega-3 fatty acids • Maintain regular physical activity • Avoid smoking • Manage blood pressure, diabetes, and obesity
Screening Techniques	**Visual acuity testing:** typically done using a Snellen chart, which has rows of letters decreasing in size **Tonometry:** measures intraocular pressure, commonly through Goldmann applanation tonometry or noncontact (the air-puff test) **Gonioscopy:** assesses the eye's drainage angle using a special lens and slit lamp **Optic nerve imaging:** uses laser light to produce 3D representations of the optic nerve through OCT and Heidelberg Retina Tomograph
Treatments	**Eye drops:** to lower intraocular pressure (e.g., prostaglandin analogs, beta blockers, carbonic anhydrase inhibitors, and alpha agonists) **Trabeculoplasty:** laser treatment to improve the eye drainage angle **Incisional surgeries and stents:** to create drainage pathways

Table 1: Leading Noncommunicable Conditions Causing Vision Loss *Continued*

Retinopathy (Diabetic and Hypertensive): Damage to blood vessels in the retina that become leaky or blocked, often caused by diabetes and hypertension. In DR, prolonged high blood sugar levels weaken retinal vessels or trigger abnormal vessel growth. A related condition, diabetic macular edema (DME), involves fluid buildup in the central retina, leading to central vision loss. In hypertensive retinopathy, sustained high blood pressure causes vessel narrowing, thickening, or bleeding.	
Risk Factors	• Diabetes mellitus • Poor blood sugar control (Elevated HbA1c levels) • Hypertension and high cholesterol • Diabetic kidney disease • Pregnancy (in people with diabetes or who develop gestational diabetes) • Current or previous smoker
Prevention	• Receive regular eye exams • Maintain healthy blood sugar levels • Manage blood pressure and cholesterol • Eat a diet rich in fruits, vegetables, and whole grains • Maintain regular physical activity • Avoid smoking • Monitor and manage kidney health • If pregnant and diabetic, receive eye exams and monitor closely
Screening Techniques	**Visual acuity testing:** typically done using a Snellen chart, which has rows of letters decreasing in size **Fundus exam:** eye drops are used to dilate the pupils to examine the macula and retina **Fundus photography:** imaging techniques used to photograph the back of the eye, often requiring pupil dilation; newer non-mydriatic cameras capture images without pupil dilation **Optical coherence tomography (OCT):** noninvasive imaging technique that provides high-resolution, cross-sectional images of the retina
Treatments	**Anti-vascular endothelial growth factor (anti-VEGF):** injections to reduce abnormal blood vessel growth and fluid leakage **Focal or grid laser photocoagulation:** used to seal leaking blood vessels and reduce macular edema in earlier stages of DR **Panretinal photocoagulation:** laser treatment used to shrink abnormal blood vessels and prevent bleeding or retinal detachment **Steroid injections or implants:** to reduce inflammation and swelling in cases of DME, especially when anti-VEGF is less effective

Source: Milken Institute (2025)

RISK FACTOR SPOTLIGHT: WOMEN'S HEALTH

Women have an increased risk of vision loss due to their higher occurrence of chronic disease and longer lifespan. While women tend to outlive men, putting them at higher risk for developing AMD, other factors are also at play. For example, pregnancy acts as a stress test, inducing or unveiling health risks such as gestational diabetes and preeclampsia, which are both tied to future diabetes and cardiovascular disease, and therefore increased risk of vision loss.[13]

Barriers to Increased Access to Eye Health Care

Case Studies from the US, Germany, Japan, and China

Without access to appropriate eye care, people are more likely to experience preventable vision loss. Across geographies and cultural contexts, common barriers to eye health include low health literacy, lower socioeconomic status, remote geographical location, lack of access to care, and lack of patient engagement in care.

To showcase how these barriers impact global eye health, the following section highlights the US, Germany, Japan, and China. These countries experience all of the common barriers to eye care screening and treatment to varying degrees. They were selected because each reflects related trends in demographic transitions, including aging populations, stark gaps in socioeconomic status, and growth in chronic disease prevalence. To illustrate how these barriers manifest across different settings, each is paired with a country-specific vignette highlighting the unique impact in the US, Germany, Japan, and China. Before exploring these vignettes, Table 2 provides an overview of the state of eye health across these countries from a cross-comparison.

Table 2: The State of Eye Health Across the US, Germany, Japan, and China

	United States	Germany	China	China
Number of People with Vision Loss[14]	16.4 M/3.6%	5.8 M/4.2%	13.2 M/5.6%	274.3 M/14.1%
Productivity Loss due to Poor Vision per Year (in USD)[15]	$71.6 M	$24.6 M	$32.0 M	$120.0 M
Ophthalmologists per Million People[16]	55	91	114	26
Primary Drivers of Vision Loss in Order of Impact	1. Cataract 2. AMD 3. DR 4. Glaucoma[17]	1. AMD 2. Glaucoma 3. DR 4. Cataract[18]	1. Glaucoma 2. DR 3. Refractive Errors 4. AMD[19]	1. Refractive Errors 2. Cataract 3. AMD 4. Glaucoma[20]

Source: Milken Institute (2025)

Eye Health Literacy

Health literacy is the degree to which people can find, understand, and use information and services to make health-related decisions.[21] Patients mainly learn about vision loss risk factors through their primary care physicians (PCPs), nephrologists, and eye care practitioners. Given their increased risk, eye health literacy is critically important for those who are aging or have a related chronic condition, since those who are knowledgeable about eye health have better vision outcomes than those with lower literacy levels. Knowing their risk factors can help patients make more informed, timely decisions that can lead to better health outcomes.

⟶ Eyes Wide Open: Eye Health Literacy in Germany

In the Global Coalition on Aging's 2020 inaugural International Vision Health Scorecard, Germany scored among the highest in research and innovation, health system preparedness, and access to care; however, Germany scored in the bottom third (score of 6.2 out of 10) in prevention when considering coordination of care, interventions that reach at-risk populations, and efforts to increase awareness of eye diseases and symptoms.[22] Improving the public's eye health knowledge is one way to help better target educational interventions, enhance overall health literacy, and improve eye health outcomes, including reducing vision loss.

In a 2024 study, 1,000 German participants were surveyed on their knowledge of cataract, glaucoma, AMD, and diabetic eye disease risk factors, prevention strategies, and treatments.[23] The results suggest that knowledge of common eye diseases in the adult German population is relatively poor, especially for AMD (less than 20 percent of study participants knew common, modifiable risk factors for AMD). Those who are younger, in good general health, currently employed, and who use health-care services infrequently were all less knowledgeable and could be relevant target groups for future eye health education interventions in Germany. As Germany continues to excel in access and treatment innovation, strengthening health literacy, particularly among asymptomatic and underserved populations, remains key to reducing vision loss.

Socioeconomic Status and Geographical Location

About 90 percent of people with vision impairment live in low-income settings, regardless of the income level of their country.[24] Living in an area characterized by a lack of health-care facilities, providers, or resources leads to unmet health needs within the population. Vision loss is more prevalent in rural areas than in urban areas. This is due to three factors: 1) rural populations tend to be disadvantaged by their lower socioeconomic status, 2) rural areas have limited health-care resources, and 3) rural areas tend to have lower levels of health literacy, increasing chances for people to miss routine appointments, disregard a doctor's advice, or underestimate the urgency of medical treatment.[25]

→ The Rural-Urban Divide: Socioeconomic Status and Geographical Location in China

China has the largest population of people with vision impairment and blindness in the world.[26] About 30 percent of the 2.5 billion people in developing countries who experience vision problems live in China. With about 35 percent of its population residing in rural areas, medical professionals in rural China often cannot meet the demand of patients in need of chronic disease and vision loss prevention and treatment.[27] China has more than 28,000 ophthalmologists—five times the World Health Organization's recommendation of one ophthalmologist for every 250,000 people; however, most specialized ophthalmologists live and work in urban areas.

In an effort to close the disparity in health-care access between its urban and rural populations, China introduced the New Cooperative Medical Scheme, a heavily subsidized voluntary health insurance program established in 2003 to reduce the risk of catastrophic health spending for rural residents in China.[28] In the 22 years since the Scheme's inception, it has helped to address the burden in rural China, but the issue still persists.

Access to Eye Care

Eye care is one of the few medical specialties that regularly engages with healthy patients.[29] Many people visit their eye care practitioner (ECP) more frequently than their primary care doctor, so many ECPs act as the first line of defense for chronic conditions.[30]

Having access to health care and eye care is of utmost importance to preventing vision loss. However, eye care is not always covered under health insurance. The cost of care is one of the main reasons people, especially those of lower socioeconomic status, find eye care less accessible. Beyond eye care treatment, the cost of caregiving has also increased, adding another cost-related barrier for the aging population and those who have experienced vision loss.

→ Caring for Our Eyes: Access to Eye Care in the US

Preventive eye health services, such as basic optometry examinations and eye checkups, are not covered by health insurance in the US. For those services, a patient would need to be enrolled in vision insurance. About 130 million people, or 50.3 percent of the US adult population, have some type of vision insurance or managed vision care coverage. The cost of paying for eye insurance and its associated medical costs may be too high for some, as adults with up to USD$60,000 average yearly household income are significantly less likely to have eye health coverage compared to adults with more than USD$60,000 average yearly household income.[31]

Unless a patient falls within a high-risk group, such as being older in age or having diabetes, eye health is not usually addressed in exams with a primary care doctor. This means that many patients do not have preventive eye screenings and only begin to see a professional about their eyes once a problem has emerged.

Patient Engagement in Eye Health Care

Having health and vision insurance and living in a health-care oasis with a plethora of health-care facilities, professionals, and services does not guarantee that someone will have favorable health outcomes. Barriers to treatment—including cost, fear, and required recurrent treatment—persist. The treatment burden for eye health patients can be significant, especially for older adults, and if patients are unwilling or unable to attend doctor appointments and treatments, their outcomes may be suboptimal. This burden is compounded when patients begin to experience vision loss or limited mobility, making it difficult to attend appointments, or when they don't want to burden caregivers with transportation to every appointment.

→ Connecting an Aging Society: Older Adult Health-Care Participation in Japan

Japan faces one of the most accelerated aging trajectories in the world; as of 2023, nearly one-third of its population is aged 65 or older, and 1 in 10 are over 80.[32] As a result, the country is experiencing a growing burden of age- and chronic disease–related vision loss. Japan has no nationwide screening program for glaucoma, DR, or other eye diseases. Though Japan's annual "specific health checkups" are legally required for adults ages 40–74, only 13.4 percent of those receiving "specific health checkups" have ophthalmic checkups.[33] Only a small number of municipalities currently offer vision screening for adults, without a standardized protocol.

As rates of type 2 diabetes rise among older adults, DR has emerged as a major contributor to vision loss. Although national guidelines for DR screening exist, screening coverage falls short of recommendations, limiting opportunities for early diagnosis.[34] A recent study found that 58 percent of ophthalmologists in Japan had not received specific training in DR, underscoring gaps in workforce preparedness.[35]

Actions to Address Preventable Vision Loss

The 2011 UN resolution on eye health and the Fourth UN High-Level Meeting on NCDs and mental health both reflect growing momentum to address NCDs and mental health in a more integrated, person-centered way. As countries confront aging populations and a rising burden of chronic illness, eye health must no longer be treated as a separate issue. Instead, it should be recognized as a critical dimension of whole-person care.

The four actions below are key to addressing preventable vision loss. However, these actions apply to the prevention of NCDs overall. Protecting vision is a powerful lever for advancing global public health and helping to meet Sustainable Development Goals. By embedding eye health into the global NCD agenda, health systems can deliver more equitable, effective, and sustainable care for the future.

Leverage People-Centered Designed Approaches to Eye Health

Action: Integrate vision screening and referral protocols into primary care delivery models through national health policy to improve early detection and access to care. Expand community-based outreach, including mobile eye care services, to address transportation and accessibility barriers in remote and aging communities.

Increasing access to eye health screening and treatment for all is key to lowering the rate of preventable vision loss. As the first point of contact for health care, many patients have built trust with their PCPs, so making them the gateway to eye health has the potential to help more patients get care when needed.

Primary care providers are well-positioned to identify conditions, then streamline referrals to specialists for more serious conditions. Where annual wellness visits are governed by policy, like the "specific health checkups" in Japan or Medicare Annual Wellness Visits in the US, eye screenings could be mandated. This process could offer a more preventive lens, create and increase capacity among the workforce, and reduce inequity of care. By working with a PCP who integrates vision care, medical care, and disease management in a holistic, proactive approach, patients could better understand how to maintain or improve their health. For patients who are immobile or reside in remote areas where health-care treatment is severely limited or nonexistent, the use of mobile eye clinic services can reduce logistical transportation challenges.

Prioritize Investments in Eye Health Research and Innovation

Action: Incentivize research, development, and adoption of emerging technologies—such as artificial intelligence (AI)-assisted diagnostics and minimally invasive treatments—by expanding public–private partnerships, streamlining regulatory approval pathways, and incorporating these tools into reimbursable care models.

Much eye health research is decades old, and science and technology have since surpassed the research landscape. More research on the state of vision loss across the globe is needed to advance innovations. Investing in innovative medicines and technologies that contribute to lowering patient and health system burdens is critical. Such innovations have the potential to make eye care more accessible, affordable, and easier to adhere to. Today, many patients fear the common treatments that are currently available, such as eye surgery, injections in the eye, and even eye drops, making medical treatment or adherence daunting. Investing in state-of-the-art interventions to screen for and treat ocular disorders can encourage patients to seek and continue necessary treatment. Using less invasive procedures and longer-acting drugs can minimize the frequency, complexity, and fear of health-care visits.

An example of such innovation is using deep-learning AI to help screen for DR. A typical dilated eye exam screening for DR takes two hours, but AI screening takes two minutes, with 90 percent accuracy, a level that is comparable to a human practitioner. Utilizing AI in screening can allow an ECP or PCP to see more patients due to the fast rate of detection.[36] At the moment, however, very few DR patients have been screened with AI-assisted technology. Utilizing this technology has the potential to give patients quicker insights into their health.

Improve Eye Health Literacy Through Integrated Health Ecosystem Communication

Action: Mandate system-wide provider training and public awareness campaigns that link chronic disease management with eye health outcomes. Promote communication between care teams and patients to ensure eye health is recognized as a core component of holistic care.

Improving eye health literacy among the public, patients, providers, and health advocates is essential to combating preventable vision loss. Many people are unaware of the early warning signs of vision-threatening diseases or do not understand the connection between chronic conditions, such as diabetes and hypertension, and their eye health. Likewise, many non-eye care professionals lack training or incentives to screen for or refer at-risk patients.

A system-wide effort to raise awareness can help close these gaps. Public health campaigns, targeted provider education, and decision-support tools embedded into electronic health records can prompt earlier interventions and more informed patient choices. Ensuring that health professionals, especially those in primary care, endocrinology, obstetrics, gynecology, geriatrics, and cardiology, are trained to recognize the signs of eye diseases and to encourage timely referrals throughout the care journey is critical. For example, breast cancer mammography screening for women presents an opportunity to embed eye health education or basic screenings into these annual visits. Incorporating eye health messaging across every level of the care journey, from the waiting room to follow-up visits, normalizes eye care as a routine and essential part of managing overall health.

Promote Healthy Behaviors That Impact Eye Health

Action: Integrate eye health education and goals into national chronic disease prevention programs by aligning messaging with lifestyle modification efforts (e.g., smoking cessation, nutrition, physical activity). Fund community-based interventions that promote routine screenings and empower patients to make choices that protect their vision.

Promoting healthy lifestyle choices that support long-term eye health is an essential, yet often overlooked, strategy to reduce preventable vision loss. Many of the most common causes of visual impairment, such as DR, hypertensive retinopathy, and AMD, are strongly influenced by behaviors like smoking, physical inactivity, poor nutrition, and inconsistent chronic disease management.

Preventing and managing chronic diseases through proper medication use, healthy eating, physical activity, and consistent monitoring can significantly reduce the likelihood of vision loss. Poor diet, tobacco use, sedentary behavior, and prolonged exposure to UV rays can all increase the risk of eye disease. These risk factors often contribute to chronic conditions like obesity, hypertension, and diabetes, which frequently lead to vision complications if not properly managed.

Integrating eye health messaging into broader public health and chronic disease prevention programs can help people understand the link between daily behaviors and vision outcomes. For example, lifestyle programs focused on managing diabetes or cardiovascular disease can explicitly incorporate information on eye health risks and prevention strategies. In addition, delivering clear, culturally appropriate education about routine eye health screenings, sun protection, and smoking cessation can equip individuals to make informed choices that help preserve their vision. Empowering patients to take ownership of their eye health, supported by system-wide infrastructure and coordinated care, can reduce preventable vision loss across communities.

Conclusion

It is critically important that we leverage people-centered designed approaches to eye health, prioritize investments in eye health research and innovation, improve eye health literacy through integrated health ecosystem communication, and promote healthy behaviors that impact eye health. Prioritizing these actions will lead to lower rates of preventable vision loss across the globe and reduced economic impacts while increasing productivity, and they will ultimately improve whole-person health.

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