



THE ECONOMIC

IMPACT

OF VISION PROBLEMS

The Toll of Major Adult Eye Disorders,
Visual Impairment and Blindness on
the U.S. Economy

A Closer Look at Definitions and Breakdowns of Cost

Estimated annual total financial burden

The estimated annual total financial burden to the U.S. economy of four major adult vision problems (AMD, cataract, diabetic retinopathy and glaucoma), refractive errors, visual impairment and blindness is **\$35.4 billion**. The estimate, derived from published data (see Section 4, Methods and Sources), is based on direct medical costs, other direct costs and lost productivity:

Direct medical costs	\$16.2 billion
Other direct costs	\$11.2 billion
Lost productivity	\$8.0 billion

Direct medical costs refer to outpatient services, inpatient services, prescription drugs (see note below), vitamins and other medications used by people with AMD, cataract, diabetic retinopathy, glaucoma or refractive error.

Note: For patients aged 40 to 64, the prescription costs for glaucoma were calculated based on medical claims insurance data using National Drug Code numbers for identification. Both the average costs per patient using prescriptions and the average cost per prescription were calculated. For patients 65 and older, the number of prescriptions was estimated from the 2002 National Ambulatory Medical Care Survey and the National Hospital Ambulatory Medical Care Survey using a drug class variable to identify glaucoma prescriptions. Costs were calculated by multiplying this estimated number of prescriptions by the average cost per prescription found in the data for patients aged 40 to 64. Vitamin supplement costs were estimated using an assumption about the quantity consumed multiplied by the average annual cost of vitamin therapy.

Other direct costs include nursing home care due to visual impairment, government programs for people who are visually impaired (i.e., Department of Education's Independent Living Services for Older Individuals Who are Blind; American Printing House for the Blind; Library of Congress' National Library Service for the Blind and Physically Handicapped) and guide dogs.

Lost productivity is defined as the cost of lower labor force participation and lower wages among people who are visually impaired or blind compared to those in the same age group who have normal vision.

Annual excess monetary impact

The annual excess monetary impact to individuals with visual impairment and blindness, caregivers and other healthcare payers is calculated at \$5.48 billion. This figure is based on pooled, self-reported data (see Section 4, Methods and Sources). On top of the \$5.48 billion is an annual health utility loss of approximately \$10.5 billion:

Medical care expenditures	\$5.12 billion
Informal care costs	\$0.36 billion
Health utility loss	\$10.5 billion

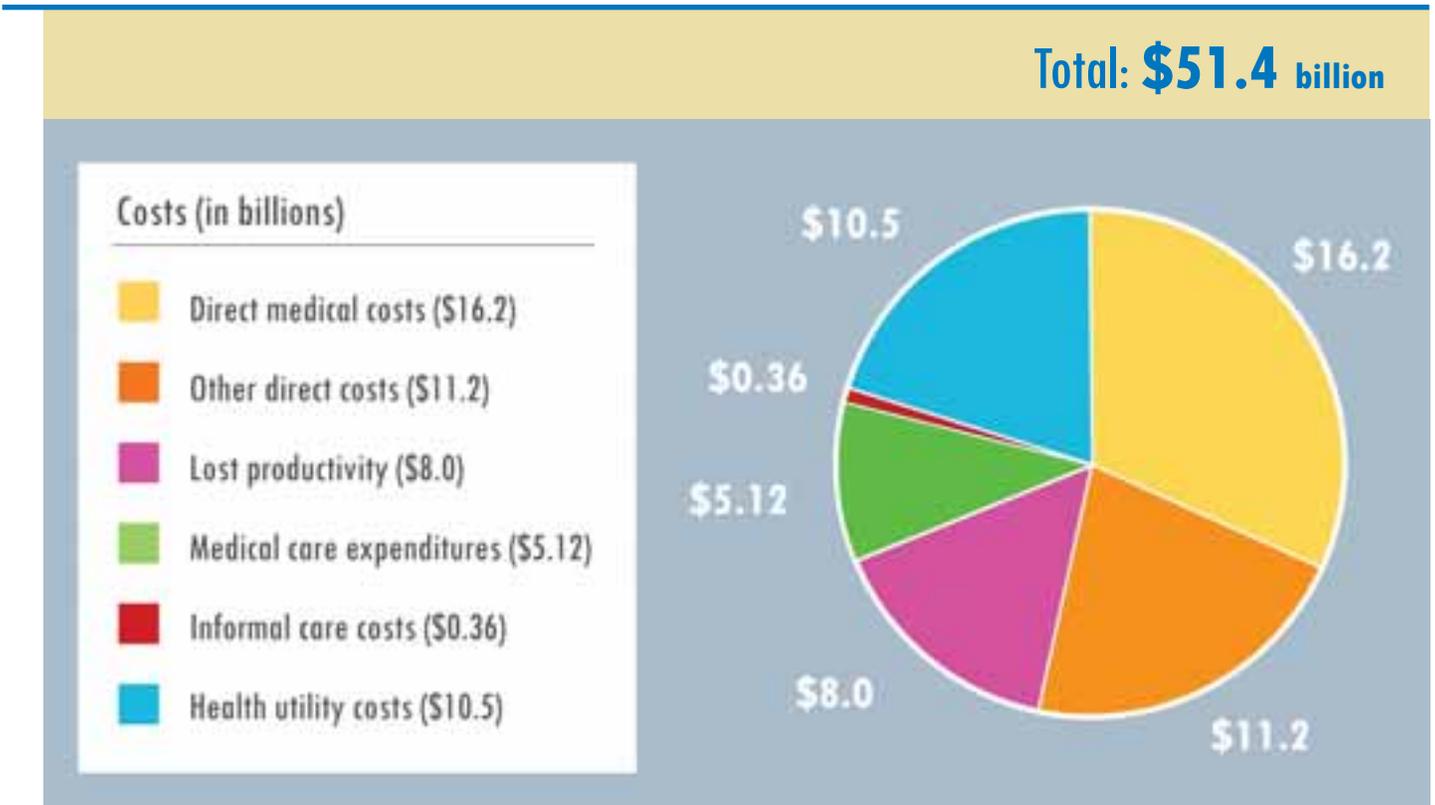
Medical care expenditures reflect costs associated with events such as outpatient doctor visits, emergency room visits, hospital stays, dental visits, home care and also medical supplies and prescription drugs.

Informal care costs refer to the value of time related to unpaid care provided by friends and family members.

Health utility is a useful measure for evaluating quality of life in chronic medical conditions where there is little or no impact on mortality in the short term. It enables health-related quality of life (e.g., distress, depression, mobility, social limitations) to be quantified and transformed into quality-adjusted life years (QALYs) gained or lost. QALYs are used in cost-effectiveness analyses. For the 3.7 million people who are visually impaired or blind, the loss in QALYs is calculated at over 209,200. In the U.S., a regularly used value for QALYs is \$50,000.

Combining these costs arrives at the total annual economic impact of vision problems: \$51.4 billion.

Graph 1.1 Total Annual Economic Impact of Vision Problems in the U.S.



Note: While they both can be considered direct costs, "medical care expenditures" and "direct medical costs" are categorized separately in this report, as they are contained in separate studies and rely on differing elements. For the purposes of this report, *direct medical costs* can be thought of as the expenditures related to the disease management of AMD, cataracts, diabetic retinopathy, glaucoma and refractive error. *Medical care expenditures* refer to the costs associated with the health maintenance of the visual impairment and blindness consequences of these and other conditions.

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Investigators

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