



Ohio's Aging Eye Public Private Partnership

A statewide collaboration preparing for the growth of aging eye challenges in Ohio

Estimates of the Economic Costs of Visual Disorders and Disabilities in the U.S. and Ohio

The annual economic and societal burden of vision-related disabilities is significant. Based on a 2004 study published by the National Eye Institute, the annual economic costs of visual disorders and disabilities in the U.S. and Ohio are estimated to be **over \$67.5 billion and \$2.7 billion respectively.**

More Ohioans than ever are facing the threat of blindness from age-related diseases like diabetic retinopathy, cataract, glaucoma, and age-related macular degeneration. The number of Ohio seniors affected by these diseases is expected to double over the next 30 years as the Baby Boomer generation ages. More than 2.5 million Ohioans will be affected. Based on this doubling of vision loss in the next three decades, **the cost of visual disorders and disabilities in Ohio can reach over \$5.5 billion annually by the year 2030!**

Ohio's Aging Eye Public Private Partnership Addresses the Challenge:

Blindness and visual impairment represent a significant human and economic toll on individuals and society. In order to ensure access to and availability of treatment and rehabilitation services, it is necessary to promote awareness of the value of vision and its cost to society. Ohio's Aging Eye Public Private Partnership (AEPPP) is a statewide collaboration formed to respond to the growth of age-related eye disease in Ohio. The mission of the AEPPP, an initiative supported by the Ohio Department of Aging, is to develop a strategic plan of action to address issues relating to vision care public policy, vision care services, vision education, and vision research that impact the quality of life for Ohio's seniors now and in the future. The formation of the Partnership and its on-going work is supported by a proclamation from Ohio Governor Bob Taft.

Data Source:

On May 31, 1982, Professor Teh-Wei Hu of Pennsylvania State University submitted a report to the National Eye Institute (NEI) entitled "Economic Costs of Visual Disorders and Disabilities: United States, 1981". Hu's analysis used traditional 'cost of illness' methodology in estimating the direct and indirect costs of ocular-related morbidity. The result was an estimate of total economic costs for visual disorders/disabilities in 1981 of \$14.1 billion -- consisting of direct costs of \$7.9 billion and indirect costs of \$6.2 billion. (Hu's original direct cost estimate of \$8.6 billion was subsequently revised to remove double counting of some optometry services.)

Direct medical costs are those connected with the use of medical care in the prevention, diagnosis, and treatment of disease, or in the continuing care and rehabilitation of patients. Direct non-medical costs, such as transportation to providers and household help, were not included in Hu's estimates. Today, however, it is common to also include non-medical direct costs in cost of illness estimates.

Indirect costs measure the value of time that patients lose from employment or other productive activity due to morbidity (and early mortality). Indirect costs also include the value of time lost from work, housekeeping, etc., by family members who transport, visit, or care for patients. Estimation of indirect costs beyond those experienced the patient, by family members and others, are not reflected in Hu's estimates.

In 1991, the Hu estimates were subjected to inflationary adjustment by the National Eye Institute in an attempt to obtain a more current cost estimate. In assuming annual inflationary increases of 10% over 1981 costs, the 1991 cost figure was estimated to have risen to \$38.4 billion. The tables following represent yet another attempt at current projections for the 2003 calendar year – again based on the 1981 data. Prevent Blindness Ohio applied 2003 Census data to arrive at estimates of the economic costs of visual disorders and disabilities in Ohio.

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Table: Economic Costs of Visual Disorders and Disabilities in the United States and Ohio: in 1981 and 2003

	Economic Costs U.S.		Economic Costs Ohio	
	(in millions of dollars)			
Category of Costs	1981	2003	1981	2003
Direct Costs				
Visits to Ophthalmologists	\$924.50	\$6,663.80	\$37	\$267
Visits to Other M.D.s	115.50	832.50	5	33.30
Eye Surgery (M.D. fees)	1,134.00	8,173.90	45.40	327
Optometrists' Services and Materials	2,061.90	14,862.20	82.30	595
In-patient Hospital Care	762.70	3,655.60	31	146.20
Nursing Home Care	1,517.20	8,846.80	61	354
Ophthalmic Drugs and Optical Goods (a)	1,185.70	5,050.90	47.40	202
Rehabilitation Services and Equipment	178.10	656.50	7	26.30
TOTAL (in millions of dollars)	\$7,879.60	\$48,742.20	\$316.10	\$1951
Indirect Costs				
Days Lost from Work (acute episodes)	\$109.80	\$332.80	\$4.40	\$13.30
Persons Unable to Work	4,636.90	14,054.40	186	562.20
Women Unable to Keep House	973.50	2,950.70	39	118
Institutionalized Persons	438.70	1,329.70	18	53.20
Waiting Time for Eye Care	75.90	230.10	3	9.20
TOTAL (in millions of dollars)	\$6,234.80	\$18,897.70	\$250.40	\$755.90
GRAND TOTAL (in millions of dollars)	\$14,114.40	\$67,639.90	\$566.50	\$2706.90

Note: (a) Drugs comprised approximately 10% (\$ 118m) of this cost category in 1981, with the remaining 90% (\$ 1067.7m) for optical goods.

Additional Notes on Data Source: Projections to 2003 from data representing ocular morbidity and eye care services 22 years earlier must be viewed with caution. The inflationary adjustments take no explicit account of changes to the age- and gender-specific composition of ocular disease/conditions and services since the 1981 period. The upward adjustments to direct costs of ocular-related services and goods are based entirely on the aggregate growth in national health expenditures (which include all diseases/medical conditions). The introduction of new drugs and medical technologies over the past two decades has, undoubtedly, altered the mix and quantity of services - possibly different from that reflected in the aggregate growth of health expenditures. For example, the variety and utilization of glaucoma drugs has increased dramatically over the past two decades, refractive surgery did not even exist in 1981, and virtually all ocular surgery is now conducted on an out-patient setting. Similarly, to the extent that an aging population may have a disproportionate effect on the prevalence of ocular morbidity and associated service utilization, aggregate increases in health expenditures will underestimate ocular-related medical costs - and indirect costs as well.

The projections of 2003 indirect cost incorporate a straight forward upward adjustment of 1981 estimates to reflect the growth of the total U. S. population over the intervening 22 years. Structural changes in the population associated with differential change among the employed, those unable to work, those keeping house, or those institutionalized were not considered. Indirect costs are also adjusted to take into account updated earnings data. This adjustment was based on the increase in the median income of full-time, year-round workers. Considering both population and income growth adjustments, each of the original indirect cost components was inflated by a factor of 3.031.