

Vision Problems in the U.S.

Prevalence of Adult Vision Impairment and Age-Related Eye Disease in America





Founded in 1908, PREVENT BLINDNESS AMERICA is the nation's leading volunteer eye health and safety organization dedicated to fighting blindness and saving sight. Focused on promoting a continuum of vision care, PREVENT BLINDNESS AMERICA touches the lives of millions of people each year through public and professional education, community and patient service programs and research.

These services are made possible through the generous support of the American public. Together with a network of affiliates, divisions and chapters, it is committed to eliminating preventable blindness in America.



The National Eye Institute (NEI), a component of the National Institutes of Health (NIH), supports and conducts research aimed at improving the prevention, treatment, and rehabilitation of diseases that affect the eye and vision. The NIH, a Federal government agency, is part of the U.S. Department of Health and Human Services. Research is conducted on the NIH campus in Bethesda, Maryland, and at universities, medical schools, hospitals, and other institutions throughout the United States and abroad.

Cataract Cataract is a clouding of the eye's naturally clear lens. Most cataracts appear with advancing age. The exact cause of cataract is unclear, but it may be the result of a lifetime of exposure to ultraviolet radiation contained in sunlight, or may be related to other lifestyle factors such as cigarette smoking, diet, and alcohol consumption.

Cataract can also occur at any age as a result of other causes such as eye injury, exposure to toxic substances or radiation, or as a result of other diseases such as diabetes.

Congenital cataracts may even be present at birth due to genetic defects or developmental problems. Cataracts in infants may also result from exposure to diseases such as rubella during pregnancy.

According to the World Health Organization, cataract is the leading cause of blindness in the world. In the United States, cataract is sometimes considered a conquered disease because treatment is widely available that can eliminate vision loss due to the disease. However, cataract still accounts for a significant amount of vision impairment in the U.S., particularly in older people who may have difficulty accessing appropriate eye care due to cost, availability, or other barriers.

Treatment of cataract involves removal of the clouded natural lens. The lens is usually replaced with an artificial intraocular lens (IOL) implant. Cataract removal is now one of the most commonly performed surgical procedures with more than a million such surgeries performed each year.

Surgery is not truly a cure for cataract, however, and its success in controlling vision loss comes with a price. It is estimated that the federal government spends more than \$3.4 billion each year treating cataract through the Medicare program.

Ongoing research into the normal healthy functioning of the eye's lens may help us better understand the causes of cataract and how they might be prevented. Even partial achievement of this goal might save hundreds of millions of dollars in the annual costs of treating cataract.

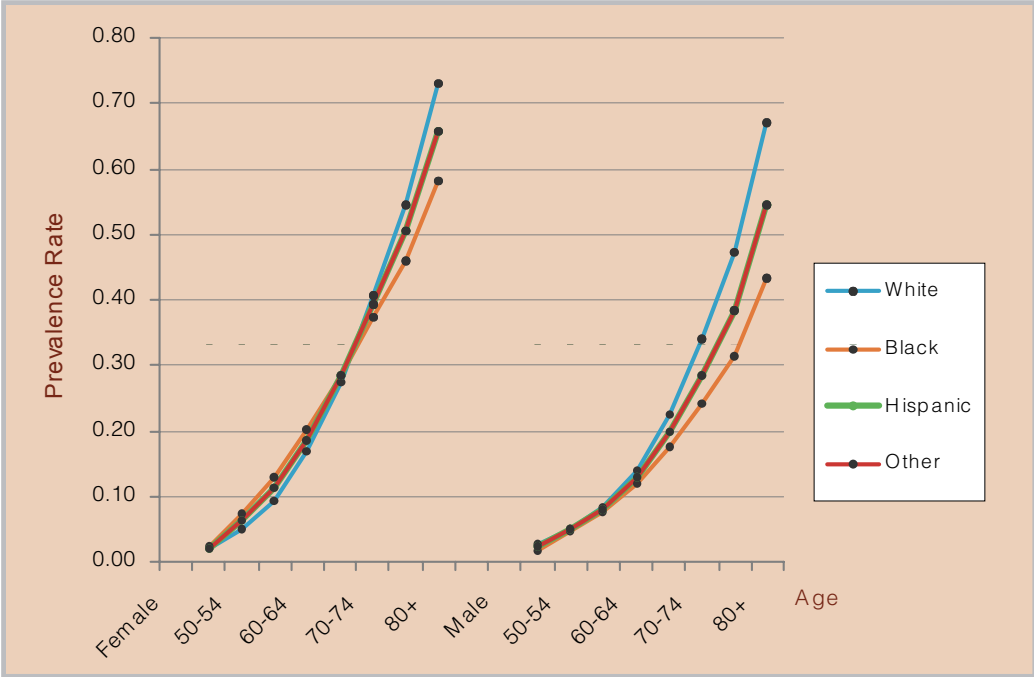
Because of the variety of opacifications possible, cases of cataract can be defined by a number of classification schemes. The cases included in the

prevalence statistics below include cortical cataract affecting 25% or more of the lens, posterior sub-capsular cataract 1mm or larger, and nuclear cataract greater than or equal to the next-to-the-highest grade in the grading system used (generally NII or NIII in the LOCS II grading system).

Cataract affects nearly 20.5 million Americans age 40 and older (see table on pages 24 and 25), or about one in every six people in this age range. By age 80, more than half of all Americans have cataract.

Cataract is slightly more common in women than in men (see chart below). It also affects Whites somewhat more frequently than other races, particularly with increasing age.

Estimated Specific Prevalence Rates for Cataract



Estimated Number of Cases of Cataract in the U.S. Population Age 40 and Older by State, Race and Sex

State	Total	Female	Male	White	Black	Hispanic	Other
Total U.S.	20,476,040	12,724,479	7,751,561	17,179,612	1,524,064	1,041,740	730,624
Alabama	332,285	211,671	120,613	268,736	58,013	1,870	3,666
Alaska	24,206	13,267	10,939	18,233	461	438	5,075
Arizona	378,937	225,001	153,936	326,008	5,341	33,436	14,152
Arkansas	215,348	133,838	81,511	191,135	19,758	1,488	2,968
California	2,123,862	1,304,123	819,739	1,493,465	98,912	287,647	243,837
Colorado	255,305	153,595	101,710	222,248	5,611	20,960	6,485
Connecticut	279,993	175,406	104,587	255,091	12,168	7,813	4,921
Delaware	58,105	35,861	22,244	50,213	6,173	723	997
District of Columbia	38,335	26,010	12,324	11,648	24,213	1,244	1,229
Florida	1,556,783	944,190	612,594	1,290,243	91,422	152,408	22,710
Georgia	471,888	299,585	172,303	369,150	88,230	5,994	8,514
Hawaii	88,491	53,260	35,231	21,693	319	2,321	64,158
Idaho	87,565	51,459	36,106	84,078	96	1,676	1,716
Illinois	886,516	559,888	326,628	746,576	84,637	31,742	23,560
Indiana	444,934	277,777	167,157	413,182	22,793	4,670	4,288
Iowa	257,490	160,596	96,894	252,177	1,991	1,516	1,806
Kansas	210,726	130,941	79,786	196,924	6,366	3,952	3,484
Kentucky	297,531	185,628	111,903	279,431	13,815	1,385	2,901
Louisiana	298,068	189,244	108,825	224,585	63,765	4,868	4,850
Maine	108,153	66,368	41,785	106,780	146	266	961
Maryland	356,447	223,875	132,572	276,104	62,483	5,675	12,185
Massachusetts	509,781	322,585	187,197	473,981	12,661	9,348	13,791
Michigan	717,119	444,436	272,683	632,906	64,128	7,866	12,219
Minnesota	359,978	220,370	139,607	348,109	3,435	2,144	6,290
Mississippi	196,886	126,643	70,243	147,561	46,238	1,159	1,928
Missouri	441,397	276,341	165,057	403,535	28,737	3,130	5,996
Montana	72,177	42,668	29,509	69,182	64	508	2,423
Nebraska	137,005	84,755	52,250	131,453	2,446	1,683	1,423
Nevada	127,046	72,660	54,386	106,748	5,164	7,931	7,203
New Hampshire	89,486	54,228	35,258	87,895	216	413	962
New Jersey	652,565	411,972	240,594	542,198	51,458	35,642	23,268
New Mexico	122,548	73,884	48,664	79,086	1,391	34,326	7,744
New York	1,433,753	912,904	520,849	1,128,716	138,188	102,999	63,850
North Carolina	562,051	355,657	206,394	465,158	82,893	4,389	9,611
North Dakota	55,593	33,738	21,855	54,256	40	163	1,134
Ohio	879,217	551,493	327,723	799,314	63,783	6,012	10,108
Oklahoma	265,301	164,741	100,560	232,159	10,718	3,374	19,049
Oregon	263,574	158,567	105,008	248,973	2,012	4,137	8,452
Pennsylvania	1,103,711	697,058	406,653	1,017,850	63,477	9,859	12,525
Rhode Island	89,624	57,041	32,583	84,117	1,471	1,940	2,096
South Carolina	279,286	176,734	102,552	218,109	56,515	1,766	2,896
South Dakota	63,360	38,580	24,781	61,008	71	242	2,040
Tennessee	413,541	260,348	153,193	365,966	40,754	2,214	4,608
Texas	1,223,128	757,056	466,072	891,175	96,721	205,501	29,730
Utah	114,200	67,320	46,880	107,173	385	3,693	2,949
Vermont	46,830	28,565	18,266	46,073	69	202	487
Virginia	470,160	293,945	176,215	384,532	65,488	6,605	13,535
Washington	403,514	242,396	161,118	367,441	5,938	7,273	22,862
West Virginia	160,207	99,489	60,718	154,580	3,646	574	1,407
Wisconsin	417,351	256,362	160,989	399,882	9,118	3,492	4,859
Wyoming	34,680	20,360	14,320	32,777	123	1,065	716

White Female	White Male	Black Female	Black Male	Hisp. Female	Hisp. Male	Other Female	Other Male	State
10,546,767	6,632,845	1,066,158	457,906	654,274	387,466	457,280	273,344	Total U.S.
166,951	101,785	41,225	16,788	1,125	745	2,370	1,295	Alabama
9,608	8,625	280	181	260	178	3,120	1,955	Alaska
192,036	133,972	3,446	1,894	20,546	12,889	8,973	5,180	Arizona
117,156	73,979	13,937	5,822	846	642	1,900	1,068	Arkansas
903,913	589,553	67,208	31,705	180,366	107,281	152,637	91,200	California
133,052	89,195	3,660	1,952	12,758	8,202	4,125	2,360	Colorado
158,898	96,193	8,535	3,634	4,971	2,843	3,003	1,918	Connecticut
30,571	19,642	4,245	1,928	431	291	614	383	Delaware
6,951	4,696	17,394	6,819	848	396	817	413	District of Columbia
768,959	521,284	62,863	28,559	98,141	54,267	14,226	8,484	Florida
228,053	141,097	62,790	25,440	3,437	2,557	5,305	3,209	Georgia
11,875	9,818	156	163	1,392	929	39,838	24,321	Hawaii
49,419	34,659	51	45	936	740	1,053	663	Idaho
467,030	279,547	59,290	25,348	18,819	12,924	14,750	8,810	Illinois
256,674	156,508	15,704	7,089	2,684	1,986	2,714	1,574	Indiana
157,269	94,908	1,321	671	886	630	1,120	686	Iowa
122,053	74,872	4,347	2,018	2,349	1,604	2,192	1,292	Kansas
173,273	106,158	9,663	4,151	824	561	1,868	1,033	Kentucky
138,557	86,028	44,521	19,244	3,158	1,711	3,008	1,842	Louisiana
65,519	41,261	80	66	164	102	605	356	Maine
169,123	106,981	43,532	18,951	3,698	1,977	7,521	4,664	Maryland
299,213	174,768	8,775	3,886	5,971	3,377	8,626	5,165	Massachusetts
387,987	244,919	44,229	19,899	4,637	3,229	7,583	4,636	Michigan
213,019	135,090	2,202	1,233	1,228	916	3,922	2,368	Minnesota
92,270	55,292	32,430	13,807	702	457	1,241	687	Mississippi
250,319	153,216	20,280	8,456	1,913	1,217	3,828	2,168	Missouri
40,804	28,378	36	28	303	205	1,525	898	Montana
81,228	50,225	1,673	772	953	730	901	523	Nebraska
60,090	46,658	3,325	1,839	4,688	3,243	4,556	2,647	Nevada
53,268	34,626	125	91	255	158	580	382	New Hampshire
338,788	203,410	36,141	15,317	22,683	12,959	14,360	8,908	New Jersey
46,874	32,213	892	499	21,217	13,109	4,901	2,843	New Mexico
705,222	423,494	99,791	38,397	68,510	34,490	39,381	24,469	New York
288,160	176,998	58,864	24,029	2,441	1,948	6,192	3,419	North Carolina
32,899	21,357	20	20	96	67	723	411	North Dakota
497,160	302,154	44,334	19,448	3,619	2,393	6,379	3,729	Ohio
143,085	89,074	7,377	3,342	1,959	1,415	12,320	6,729	Oklahoma
149,617	99,357	1,299	713	2,395	1,743	5,257	3,195	Oregon
638,181	379,669	45,107	18,370	5,991	3,868	7,779	4,747	Pennsylvania
53,465	30,652	989	482	1,258	682	1,329	767	Rhode Island
133,930	84,178	39,907	16,608	1,021	745	1,876	1,020	South Carolina
37,101	23,906	36	35	144	98	1,298	741	South Dakota
227,278	138,688	28,828	11,925	1,303	910	2,938	1,670	Tennessee
543,140	348,035	66,913	29,808	128,617	76,885	18,386	11,344	Texas
63,088	44,085	227	158	2,190	1,503	1,815	1,134	Utah
28,108	17,965	38	32	126	76	294	193	Vermont
235,744	148,788	45,404	20,084	4,227	2,378	8,570	4,964	Virginia
219,929	147,512	3,726	2,211	4,181	3,092	14,560	8,302	Washington
95,643	58,937	2,600	1,046	359	215	887	520	West Virginia
245,000	154,882	6,265	2,853	2,019	1,474	3,078	1,781	Wisconsin
19,218	13,559	74	48	632	433	436	279	Wyoming