

Vision Problems in the U.S.

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



2008 Update to the Fourth Edition

Age-related Macular Degeneration

Age-related macular degeneration (AMD) is a condition that primarily affects the part of the retina responsible for sharp central vision. There are two forms:

1. **Dry AMD (non-exudative)** is the most common form of the disease. Early AMD involves the presence of drusen, fatty deposits under the light-sensing cells in the retina. Late cases of dry AMD may also involve atrophy of the supportive layer under the light-sensing cells in the retina that helps keep those cells healthy. Vision loss in early dry AMD is usually moderate and only slowly progressive. Atrophy in late cases of dry AMD can result in more significant vision loss.
2. **Wet AMD (exudative)** is less common, but is more threatening to vision. It's called wet AMD because of the growth of tiny new blood vessels (neovascularization) under the retina that leak fluid or break open. This distorts vision and causes scar tissue to form. All cases of the wet form are considered late AMD.

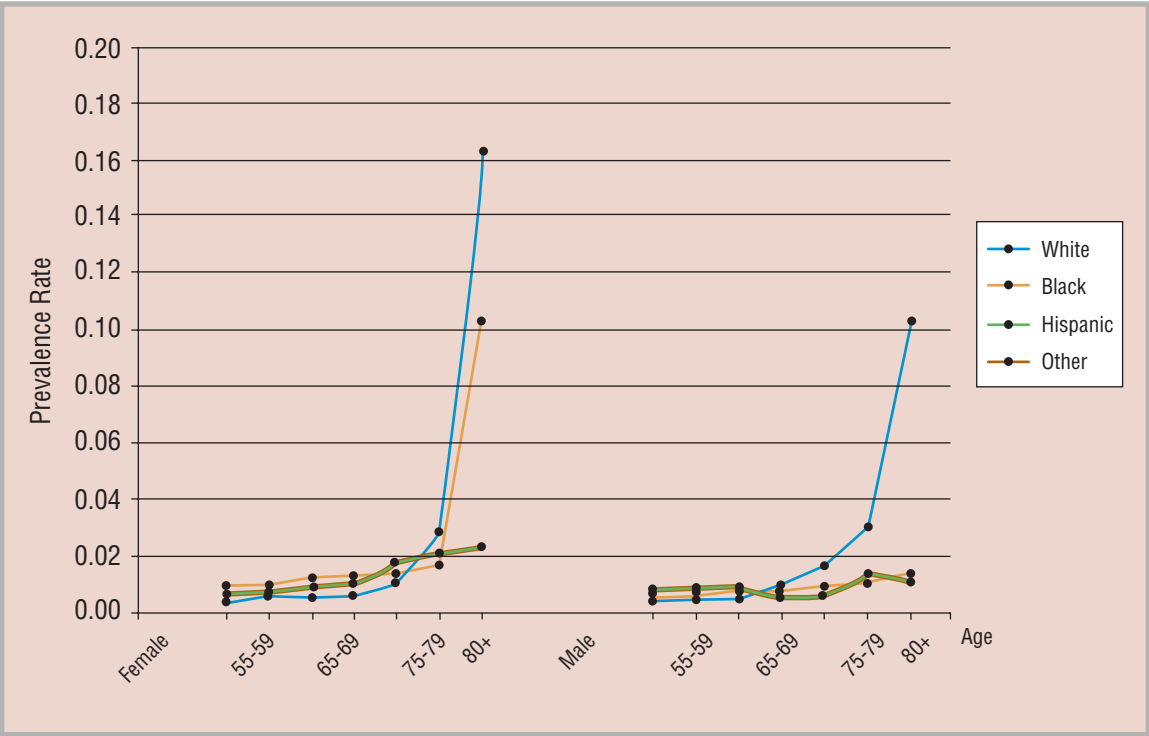
The exact cause of AMD is unknown, but risk factors for the disease include age (rarely affecting those under age 50), White race and cigarette smoking. Research also suggests that long-term diets low in certain antioxidant nutrients may increase the risk of AMD. Because AMD often damages central vision, it is likely the most common cause of legal blindness and vision impairment in older Americans.

Unfortunately, there is no generally-accepted treatment for dry AMD. Laser therapies to destroy leaking blood vessels can help reduce the risk of advancing vision loss in many cases of wet AMD. Research has recently shown that certain doses of zinc, vitamins A and C, and beta-carotene can help control the advance of late AMD, but appear to have no effect in preventing the disease in otherwise healthy individuals.

Only cases of late AMD involving geographic atrophy or neovascularization are included in the prevalence estimates on page 19. Over 2 million Americans age 50 and older have late AMD. Age-specific prevalence rates are initially comparable between races, but advance more significantly for Whites after age 75 (see chart on page 19). In Blacks, the disease is more prevalent in women until about age 75 as well.

Because data are lacking for Hispanics and other races, the rates shown below for these populations are an arithmetic average of the rates for Whites and Blacks.

Estimated Specific Prevalence Rates for AMD



Estimated Number of Cases of Age-related Macular Degeneration in the U.S. Population Age 50 and Older by State, Race and Sex

State	Total	Female	Male	White	Black	Hispanic	Other
Total U.S.	2,074,761	1,367,365	707,396	1,864,742	125,164	53,523	31,331
Alabama	31,769	21,482	10,287	26,877	4,678	99	114
Alaska	1,994	1,153	841	1,696	39	26	232
Arizona	39,012	24,252	14,760	36,156	483	1,744	628
Arkansas	21,130	13,983	7,147	19,356	1,602	91	81
California	202,413	131,725	70,688	168,061	8,192	14,937	11,223
Colorado	25,208	16,079	9,129	23,434	462	1,051	262
Connecticut	31,393	21,038	10,355	29,728	1,054	432	179
Delaware	6,136	4,019	2,117	5,513	538	42	44
District of Columbia	3,264	2,485	779	1,235	1,932	62	35
Florida	160,481	101,723	58,758	144,711	7,580	7,341	849
Georgia	45,091	30,594	14,497	36,941	7,389	382	379
Hawaii	5,651	3,639	2,012	2,707	42	108	2,794
Idaho	9,407	5,869	3,539	9,240	9	96	62
Illinois	90,175	60,877	29,298	80,759	6,644	1,740	1,032
Indiana	46,313	30,807	15,506	44,076	1,840	253	143
Iowa	28,346	18,753	9,593	28,034	162	83	67
Kansas	22,430	14,733	7,696	21,592	503	206	129
Kentucky	29,330	19,321	10,009	28,069	1,113	72	76
Louisiana	28,308	19,199	9,109	22,870	5,035	240	164
Maine	11,498	7,382	4,116	11,435	18	16	30
Maryland	36,784	24,746	12,038	30,559	5,324	333	569
Massachusetts	55,321	37,101	18,219	53,196	1,149	508	467
Michigan	75,235	49,915	25,320	69,165	5,226	409	436
Minnesota	39,250	25,571	13,678	38,555	297	123	274
Mississippi	18,368	12,664	5,704	14,616	3,631	61	60
Missouri	45,172	29,844	15,329	42,524	2,293	162	193
Montana	7,501	4,687	2,814	7,367	8	27	99
Nebraska	14,625	9,554	5,071	14,283	190	94	58
Nevada	12,674	7,607	5,068	11,315	482	493	384
New Hampshire	9,667	6,168	3,498	9,582	21	27	37
New Jersey	67,657	45,463	22,194	60,498	4,158	1,894	1,107
New Mexico	10,580	6,692	3,888	8,490	119	1,635	336
New York	143,783	97,080	46,703	124,378	11,596	5,155	2,653
North Carolina	56,515	38,065	18,450	48,840	6,976	286	412
North Dakota	6,093	3,984	2,109	6,035	3	8	46
Ohio	92,504	61,672	30,831	86,686	5,175	309	334
Oklahoma	25,433	16,391	9,042	23,720	831	187	694
Oregon	28,737	18,357	10,380	27,982	180	244	331
Pennsylvania	121,472	81,714	39,758	115,099	5,340	537	495
Rhode Island	10,349	6,991	3,359	10,045	139	113	52
South Carolina	27,852	18,827	9,026	22,914	4,721	108	109
South Dakota	6,995	4,541	2,454	6,888	8	14	85
Tennessee	40,744	27,128	13,616	37,192	3,272	134	146
Texas	110,852	72,234	38,618	91,511	7,652	10,340	1,349
Utah	11,659	7,174	4,485	11,296	32	205	127
Vermont	4,953	3,148	1,804	4,921	7	11	14
Virginia	47,199	31,398	15,802	40,693	5,469	387	650
Washington	42,997	27,523	15,475	41,030	518	414	1,036
West Virginia	15,974	10,340	5,633	15,600	311	29	34
Wisconsin	44,996	29,532	15,464	43,888	709	201	197
Wyoming	3,471	2,142	1,329	3,385	11	50	24

White Female	White Male	Black Female	Black Male	Hisp. Female	Hisp. Male	Other Female	Other Male	State
1,209,314	655,429	101,941	23,223	35,324	18,200	20,786	10,545	Total U.S.
17,470	9,407	3,874	804	62	37	76	38	Alabama
955	741	28	11	16	10	154	79	Alaska
22,324	13,832	370	113	1,130	614	427	201	Arizona
12,543	6,813	1,331	271	55	36	54	28	Arkansas
107,798	60,263	6,570	1,623	9,865	5,072	7,492	3,731	California
14,874	8,560	353	108	675	376	177	85	Colorado
19,779	9,949	855	199	289	143	114	65	Connecticut
3,531	1,982	433	105	26	15	29	15	Delaware
784	451	1,634	298	43	19	24	11	District of Columbia
90,169	54,542	6,024	1,556	4,967	2,374	563	287	Florida
24,083	12,857	6,035	1,354	233	150	243	136	Georgia
1,624	1,083	29	13	71	37	1,915	878	Hawaii
5,764	3,476	6	3	57	39	41	21	Idaho
53,703	27,055	5,408	1,236	1,090	650	676	357	Illinois
29,065	15,012	1,493	347	155	98	94	49	Indiana
18,531	9,503	127	35	51	32	44	23	Iowa
14,115	7,476	404	99	129	77	84	45	Kansas
18,315	9,754	911	202	44	28	50	26	Kentucky
14,838	8,032	4,093	941	163	77	104	60	Louisiana
7,339	4,097	13	5	11	5	20	10	Maine
19,864	10,694	4,286	1,038	226	107	370	199	Maryland
35,532	17,664	927	222	342	167	301	167	Massachusetts
45,121	24,044	4,255	970	256	153	282	153	Michigan
25,094	13,462	223	75	75	48	180	94	Minnesota
9,608	5,008	2,977	654	38	23	40	20	Mississippi
27,732	14,792	1,880	413	104	58	128	65	Missouri
4,598	2,769	6	2	18	9	66	33	Montana
9,308	4,974	150	40	56	37	40	19	Nebraska
6,670	4,645	365	118	311	182	261	123	Nevada
6,112	3,470	15	6	18	9	24	13	New Hampshire
40,101	20,397	3,383	775	1,266	628	713	394	New Jersey
5,301	3,189	90	28	1,072	564	229	107	New Mexico
82,183	42,195	9,618	1,979	3,572	1,583	1,708	946	New York
31,856	16,985	5,764	1,212	169	117	276	136	North Carolina
3,945	2,090	2	1	5	3	32	15	North Dakota
57,030	29,656	4,226	949	198	111	219	114	Ohio
15,144	8,576	665	166	114	72	467	227	Oklahoma
17,847	10,135	140	40	150	94	220	111	Oregon
76,595	38,504	4,453	887	346	191	320	176	Pennsylvania
6,772	3,273	108	31	77	36	33	19	Rhode Island
14,802	8,112	3,884	837	67	41	74	35	South Carolina
4,469	2,419	5	2	9	5	58	27	South Dakota
24,269	12,923	2,681	591	83	52	95	51	Tennessee
58,413	33,098	6,150	1,502	6,800	3,540	871	477	Texas
6,938	4,358	23	9	130	75	83	43	Utah
3,128	1,793	4	2	7	4	9	5	Vermont
26,258	14,436	4,452	1,017	255	131	432	218	Virginia
26,176	14,854	389	129	254	160	705	331	Washington
10,039	5,561	261	50	19	10	22	12	West Virginia
28,720	15,168	557	152	123	78	132	66	Wisconsin
2,086	1,299	9	3	31	19	16	8	Wyoming

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