

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.

Vision Impairment & Blindness

The term "blindness" can have many connotations and is difficult to define precisely. To many people, blindness refers to the complete loss of vision with no remaining perception of light. However, this ultimate form of complete blindness is rare. Far more people have a permanent loss of some, but not all, of their eyesight. The severity of vision loss can vary widely and may result in equally varying degrees of functional impairment.

"Legal blindness" represents an artificial distinction and has little value for rehabilitation, but it is significant in that it determines eligibility for certain disability benefits from the Federal Government. In the United States, it is typically defined as visual acuity with best correction in the better eye worse than or equal to 20/200 or a visual field extent of less than 20 degrees in diameter. These overly simple criteria for visual impairment are far from comprehensive in defining the visual function deficits that can cause difficulties for daily living tasks.

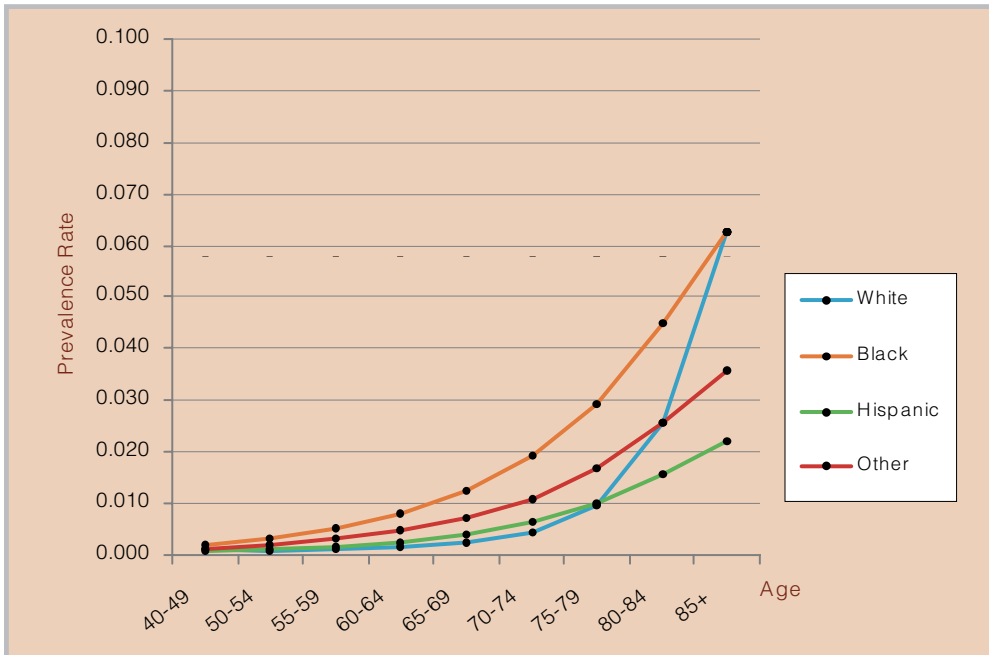
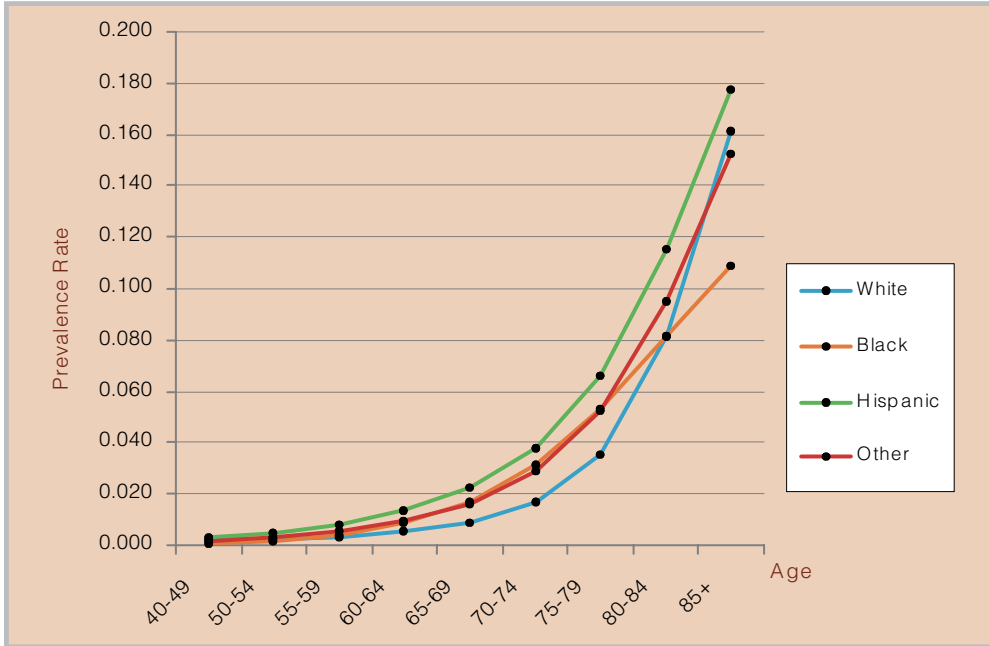
Vision impairment is defined as having 20/40 or worse vision in the better eye even with eyeglasses. People with the least degree of vision impairment may still face challenges in everyday life. For instance, people with vision worse than 20/40 cannot obtain an unrestricted driver's license in most states.

Almost everyone with blindness or vision impairment can benefit from vision rehabilitation that can help make the most of whatever vision remains.

Unfortunately, blindness and vision impairment represent a significant burden, not only to those affected by sight loss, but to our national economy as well. It is estimated that blindness and vision impairment cost the federal government more than \$4 billion annually in benefits and lost taxable income.

Blindness, as defined above, affects more than one million Americans age 40 and older (see table on pages 8 and 9). The visually impaired, including those who are blind, total more than 3.4 million older Americans (see table on pages 6 and 7). Blindness affects Blacks more frequently than Whites and Hispanics (see chart on page 5). Hispanics, however, have higher rates of visual impairment than other races. The prevalence of blindness and vision impairment increases rapidly in the later years, particularly after age 75.

Estimated Specific Prevalence Rates for Visual Impairment and Blindness



Estimated Number of Cases of Vision Impairment (including Blindness) 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.	3,406,280	2,253,866	1,152,413	2,861,479	265,277	170,462	109,063
Alabama	52,976	35,655	17,321	41,399	10,722	329	525
Alaska	3,046	1,749	1,297	2,194	69	62	721
Arizona	58,117	36,002	22,115	49,747	903	5,344	2,124
Arkansas	35,517	23,569	11,949	31,036	3,801	236	444
California	356,021	227,223	128,798	255,709	17,060	46,475	36,777
Colorado	40,841	26,536	14,306	35,609	904	3,419	908
Connecticut	49,635	33,760	15,876	45,686	1,995	1,231	722
Delaware	8,994	5,945	3,049	7,697	1,040	116	141
District of Columbia	7,095	4,696	2,399	2,237	4,453	202	204
Florida	261,745	164,021	97,724	216,060	15,591	26,785	3,309
Georgia	72,763	49,038	23,725	55,447	15,223	944	1,150
Hawaii	14,647	8,399	6,248	3,252	52	385	10,958
Idaho	14,242	8,967	5,276	13,707	16	263	255
Illinois	152,125	102,781	49,345	129,527	14,385	4,840	3,372
Indiana	73,203	49,466	23,738	67,840	3,984	750	630
Iowa	48,944	33,832	15,113	48,085	342	248	268
Kansas	39,216	26,712	12,504	36,937	1,140	639	500
Kentucky	47,021	31,766	15,255	43,835	2,512	239	435
Louisiana	47,731	31,683	16,048	34,867	11,308	821	735
Maine	18,308	12,436	5,872	18,094	25	46	143
Maryland	56,701	37,420	19,282	43,832	10,266	901	1,702
Massachusetts	90,426	62,632	27,795	84,726	2,125	1,474	2,101
Michigan	116,032	76,802	39,230	101,891	11,152	1,250	1,740
Minnesota	65,322	44,263	21,058	63,507	544	348	922
Mississippi	32,673	22,070	10,602	23,502	8,667	203	301
Missouri	76,074	51,777	24,297	69,608	5,063	518	884
Montana	12,062	7,772	4,291	11,617	12	81	352
Nebraska	25,623	17,448	8,175	24,733	419	265	206
Nevada	16,857	10,091	6,766	13,891	817	1,195	955
New Hampshire	14,697	9,905	4,791	14,457	34	69	137
New Jersey	109,141	72,877	36,264	91,702	8,602	5,594	3,242
New Mexico	19,864	12,334	7,530	12,513	247	5,890	1,214
New York	247,844	167,069	80,775	198,694	23,299	16,403	9,448
North Carolina	87,109	58,808	28,302	70,395	14,646	702	1,366
North Dakota	10,649	7,055	3,594	10,452	6	28	163
Ohio	142,655	96,213	46,442	129,032	11,157	971	1,495
Oklahoma	44,699	29,960	14,739	39,335	1,938	532	2,893
Oregon	44,704	28,907	15,796	42,471	348	652	1,233
Pennsylvania	185,205	125,628	59,577	170,524	11,237	1,582	1,862
Rhode Island	16,018	11,126	4,892	15,145	242	309	323
South Carolina	42,463	28,326	14,137	31,776	9,991	284	412
South Dakota	12,088	8,141	3,947	11,730	13	44	302
Tennessee	65,272	44,109	21,162	56,942	7,290	367	672
Texas	199,296	129,900	69,397	144,451	16,917	33,790	4,138
Utah	17,815	11,133	6,682	16,726	66	579	444
Vermont	7,896	5,329	2,568	7,777	12	37	71
Virginia	73,714	49,279	24,435	59,379	11,469	1,031	1,836
Washington	67,035	43,288	23,747	61,602	989	1,155	3,289
West Virginia	25,434	17,089	8,345	24,406	709	99	220
Wisconsin	73,168	49,294	23,875	70,449	1,448	558	713
Wyoming	5,557	3,590	1,968	5,251	22	179	106

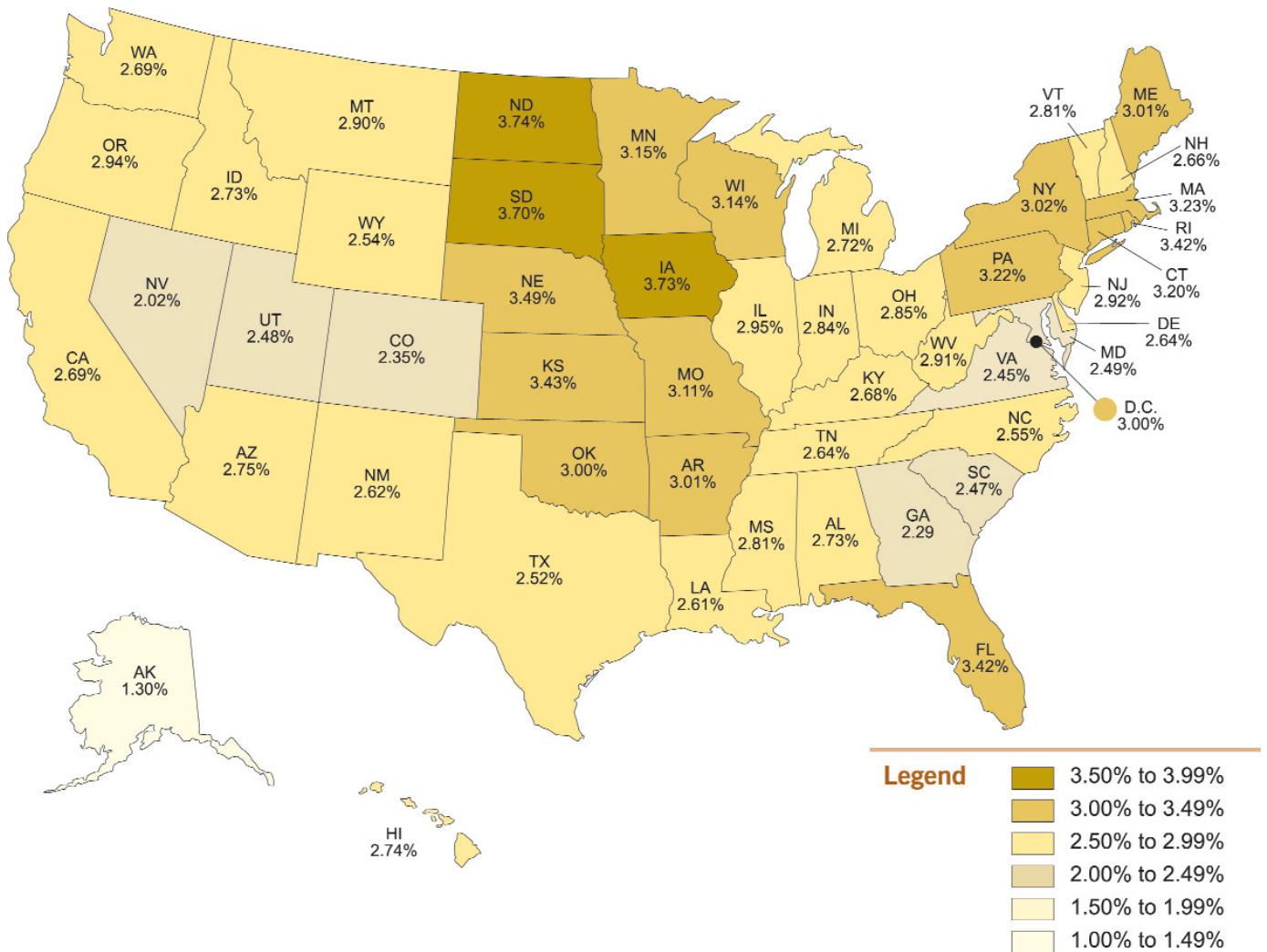
White Female	White Male	Black Female	Black Male	Hisp. Female	Hisp. Male	Other Female	Other Male	State
1,920,686	940,793	169,088	96,188	100,631	69,831	63,461	45,602	Total U.S.
28,155	13,244	6,991	3,732	187	141	322	203	Alabama
1,265	929	37	32	35	27	412	309	Alaska
31,164	18,582	521	380	3,070	2,274	1,247	878	Arizona
20,718	10,318	2,456	1,345	124	112	271	173	Arkansas
168,175	87,535	10,500	6,560	27,358	19,117	21,192	15,585	California
23,514	12,096	533	371	1,952	1,468	537	372	Colorado
31,342	14,344	1,274	722	731	502	414	309	Connecticut
5,152	2,546	649	391	65	51	80	61	Delaware
1,499	738	2,937	1,517	133	70	129	75	District of Columbia
136,037	80,022	9,707	5,885	16,358	10,427	1,919	1,389	Florida
37,849	17,599	10,011	5,212	511	432	668	482	Georgia
1,954	1,299	22	30	209	176	6,214	4,744	Hawaii
8,677	5,030	8	9	136	126	144	112	Idaho
89,033	40,495	9,107	5,279	2,656	2,184	1,985	1,388	Illinois
46,206	21,634	2,485	1,498	397	352	376	253	Indiana
33,335	14,750	208	135	135	113	154	115	Iowa
25,361	11,576	706	434	347	292	298	202	Kansas
29,749	14,085	1,613	898	137	102	265	170	Kentucky
23,599	11,267	7,146	4,162	508	313	430	305	Louisiana
12,315	5,779	12	13	26	20	83	60	Maine
29,389	14,443	6,494	3,772	555	346	981	720	Maryland
59,168	25,558	1,332	793	877	597	1,255	847	Massachusetts
68,185	33,707	6,918	4,234	684	567	1,016	724	Michigan
43,225	20,283	312	232	186	162	541	381	Minnesota
16,254	7,247	5,519	3,148	116	87	181	120	Mississippi
47,684	21,924	3,261	1,802	298	221	534	350	Missouri
7,510	4,107	7	6	45	37	211	141	Montana
16,931	7,802	263	156	136	129	118	87	Nebraska
8,426	5,465	464	353	652	543	549	406	Nevada
9,774	4,683	18	17	37	33	77	60	New Hampshire
62,150	29,553	5,487	3,116	3,363	2,231	1,878	1,365	New Jersey
8,074	4,439	143	104	3,402	2,488	715	499	New Mexico
135,808	62,887	15,407	7,892	10,361	6,042	5,494	3,954	New York
48,038	22,357	9,572	5,074	366	336	832	535	North Carolina
6,940	3,512	3	4	15	13	97	66	North Dakota
87,762	41,271	7,024	4,134	541	430	887	608	Ohio
26,656	12,679	1,220	719	287	246	1,797	1,096	Oklahoma
27,638	14,834	207	141	352	300	710	523	Oregon
116,340	54,184	7,303	3,934	896	686	1,089	773	Pennsylvania
10,599	4,546	147	96	189	120	193	130	Rhode Island
21,462	10,315	6,460	3,530	154	129	250	162	South Carolina
7,926	3,804	5	6	24	20	184	117	South Dakota
38,778	18,163	4,719	2,572	203	164	408	264	Tennessee
97,043	47,408	10,668	6,249	19,789	14,001	2,399	1,739	Texas
10,526	6,200	35	31	320	259	251	192	Utah
5,262	2,515	6	6	22	15	39	31	Vermont
40,333	19,045	7,238	4,231	620	412	1,089	746	Virginia
40,189	21,413	558	432	616	540	1,927	1,362	Washington
16,430	7,976	469	240	57	42	132	88	West Virginia
47,675	22,774	897	553	300	257	422	291	Wisconsin
3,419	1,832	12	10	99	80	60	45	Wyoming

Estimated Number of Cases of Blindness 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.	1,046,920	712,171	334,748	883,698	111,877	23,170	28,175
Alabama	17,186	11,775	5,411	12,546	4,456	44	139
Alaska	887	516	371	653	32	9	193
Arizona	16,530	10,570	5,960	14,860	390	733	547
Arkansas	11,231	7,644	3,588	9,510	1,574	33	114
California	102,328	67,268	35,060	79,340	7,232	6,353	9,402
Colorado	12,145	8,157	3,989	11,039	395	467	244
Connecticut	15,544	10,906	4,639	14,327	856	170	190
Delaware	2,835	1,927	908	2,338	443	16	38
District of Columbia	2,608	1,729	880	719	1,812	28	50
Florida	76,799	49,395	27,404	65,772	6,631	3,526	870
Georgia	23,759	16,280	7,479	16,801	6,508	132	319
Hawaii	3,663	2,115	1,548	981	24	52	2,606
Idaho	4,313	2,799	1,515	4,202	7	37	66
Illinois	48,021	33,309	14,712	40,367	6,079	681	894
Indiana	22,920	15,914	7,007	20,978	1,674	104	165
Iowa	15,682	11,215	4,467	15,431	146	34	70
Kansas	12,502	8,788	3,714	11,802	479	88	133
Kentucky	14,624	10,138	4,486	13,432	1,048	32	112
Louisiana	15,669	10,560	5,109	10,614	4,756	110	189
Maine	5,709	4,013	1,696	5,654	11	6	37
Maryland	18,385	12,355	6,030	13,380	4,422	124	459
Massachusetts	28,325	20,241	8,084	26,675	908	204	538
Michigan	36,552	24,772	11,780	31,232	4,683	173	465
Minnesota	20,731	14,512	6,219	20,193	246	48	243
Mississippi	10,930	7,488	3,441	7,214	3,613	27	76
Missouri	24,185	16,917	7,268	21,762	2,122	70	230
Montana	3,701	2,465	1,236	3,592	5	11	93
Nebraska	8,186	5,757	2,429	7,915	180	37	55
Nevada	4,807	2,966	1,841	4,021	355	169	263
New Hampshire	4,564	3,185	1,379	4,502	15	10	37
New Jersey	33,529	22,954	10,574	28,228	3,650	772	879
New Mexico	5,005	3,233	1,772	3,810	104	785	306
New York	76,723	53,043	23,680	62,182	9,837	2,242	2,462
North Carolina	27,880	19,226	8,654	21,286	6,131	98	364
North Dakota	3,381	2,309	1,073	3,331	3	4	43
Ohio	44,702	30,922	13,780	39,521	4,658	133	390
Oklahoma	13,878	9,559	4,319	12,251	816	74	737
Oregon	13,734	9,159	4,575	13,170	149	91	324
Pennsylvania	57,620	40,143	17,477	52,258	4,660	218	485
Rhode Island	4,976	3,561	1,415	4,748	104	43	82
South Carolina	13,847	9,397	4,450	9,510	4,188	39	110
South Dakota	3,864	2,691	1,173	3,774	6	6	79
Tennessee	20,659	14,275	6,383	17,366	3,066	50	177
Texas	57,445	38,648	18,798	44,546	7,192	4,583	1,124
Utah	5,291	3,396	1,895	5,066	29	81	115
Vermont	2,464	1,716	748	2,435	5	5	19
Virginia	23,594	16,115	7,479	18,136	4,811	144	504
Washington	20,529	13,650	6,879	19,068	432	161	868
West Virginia	7,812	5,397	2,415	7,455	289	13	55
Wisconsin	22,977	15,973	7,004	22,079	633	78	187
Wyoming	1,688	1,130	558	1,627	9	24	28

White Female	White Male	Black Female	Black Male	Hisp. Female	Hisp. Male	Other Female	Other Male	State
612,301	271,397	70,335	41,541	13,459	9,711	16,076	12,099	Total U.S.
8,796	3,750	2,871	1,585	25	19	83	56	Alabama
387	267	17	15	5	4	108	85	Alaska
9,619	5,241	220	169	415	318	316	231	Arizona
6,553	2,957	1,006	568	17	16	68	47	Arkansas
53,862	25,479	4,384	2,848	3,682	2,671	5,341	4,061	California
7,526	3,513	227	168	262	205	142	103	Colorado
10,161	4,166	539	318	100	71	106	84	Connecticut
1,625	714	273	170	9	7	21	17	Delaware
498	221	1,183	630	18	10	31	19	District of Columbia
42,710	23,062	4,071	2,560	2,118	1,408	496	374	Florida
11,826	4,975	4,204	2,304	70	62	181	138	Georgia
613	368	10	14	28	24	1,464	1,142	Hawaii
2,739	1,463	3	4	19	18	37	30	Idaho
28,622	11,745	3,807	2,273	368	313	512	382	Illinois
14,731	6,247	1,032	641	54	49	96	69	Indiana
11,070	4,361	87	59	18	16	40	31	Iowa
8,372	3,430	292	187	47	41	77	56	Kansas
9,389	4,042	664	384	18	14	66	46	Kentucky
7,415	3,198	2,970	1,786	67	43	108	82	Louisiana
3,983	1,671	5	6	3	3	21	16	Maine
9,265	4,115	2,756	1,666	75	49	258	200	Maryland
19,250	7,425	560	348	120	84	311	227	Massachusetts
21,541	9,692	2,874	1,809	93	80	264	201	Michigan
14,211	5,983	137	109	25	23	139	104	Minnesota
5,152	2,061	2,276	1,337	15	12	45	31	Mississippi
15,391	6,370	1,350	772	40	31	135	95	Missouri
2,403	1,189	3	3	6	5	54	39	Montana
5,596	2,318	111	69	19	18	31	23	Nebraska
2,527	1,494	199	156	91	78	150	113	Nevada
3,152	1,350	8	8	5	5	20	17	New Hampshire
19,705	8,523	2,299	1,352	456	316	495	384	New Jersey
2,550	1,260	59	45	447	338	177	129	New Mexico
43,841	18,341	6,419	3,418	1,392	850	1,391	1,071	New York
15,013	6,273	3,947	2,184	50	48	216	149	North Carolina
2,280	1,051	1	2	2	2	25	18	North Dakota
27,722	11,799	2,901	1,757	73	60	226	164	Ohio
8,571	3,680	506	310	39	35	443	294	Oklahoma
8,841	4,329	86	63	48	43	183	141	Oregon
36,753	15,505	2,993	1,667	122	96	276	209	Pennsylvania
3,426	1,322	62	42	26	17	48	34	Rhode Island
6,641	2,869	2,670	1,518	21	18	65	45	South Carolina
2,639	1,135	2	3	3	3	46	32	South Dakota
12,186	5,179	1,957	1,109	27	23	104	73	Tennessee
30,900	13,646	4,467	2,725	2,645	1,938	635	489	Texas
3,273	1,793	15	14	44	37	64	51	Utah
1,701	734	3	3	3	2	10	8	Vermont
12,744	5,391	2,994	1,817	85	59	292	212	Virginia
12,827	6,242	237	195	85	77	502	366	Washington
5,169	2,286	188	101	7	6	32	23	West Virginia
15,438	6,641	386	248	41	36	108	79	Wisconsin
1,097	530	5	4	13	11	15	12	Wyoming

Estimated Prevalence Rates of Vision Impairment & Blindness for Persons Age 40 and Older by State



The map above reflects estimated state-by-state prevalence rates of vision impairment, including blindness. The overall national rate is 2.85%. When this rate is applied to the total U.S. population age 40 and older of approximately 119 million, the result indicates that more than 3.4 million older Americans are blind or vision impaired. Twenty-two states and the District of Columbia have rates above the national average, while 28 states have rates below the average. Iowa and North Dakota have the highest rates at 3.73% and 3.74% respectively. Alaska has the lowest rate at 1.3%. The largest majority of states (39 states and DC) are within the 2.5% to 3.5% range. Differences between states are likely due to demographic differences in age, race and/or gender distribution.

State	Rate
Total U.S.	0.0285
Alabama	0.0273
Alaska	0.0130
Arizona	0.0275
Arkansas	0.0301
California	0.0269
Colorado	0.0235
Connecticut	0.0320
Delaware	0.0264
District of Columbia	0.0300
Florida	0.0342
Georgia	0.0229
Hawaii	0.0274
Idaho	0.0273
Illinois	0.0295
Indiana	0.0284
Iowa	0.0373
Kansas	0.0343
Kentucky	0.0268
Louisiana	0.0261
Maine	0.0301
Maryland	0.0249
Massachusetts	0.0323
Michigan	0.0272
Minnesota	0.0315
Mississippi	0.0281
Missouri	0.0311
Montana	0.0290
Nebraska	0.0349
Nevada	0.0202
New Hampshire	0.0266
New Jersey	0.0292
New Mexico	0.0262
New York	0.0302
North Carolina	0.0255
North Dakota	0.0374
Ohio	0.0285
Oklahoma	0.0300
Oregon	0.0294
Pennsylvania	0.0322
Rhode Island	0.0342
South Carolina	0.0247
South Dakota	0.0370
Tennessee	0.0264
Texas	0.0252
Utah	0.0248
Vermont	0.0281
Virginia	0.0245
Washington	0.0269
West Virginia	0.0291
Wisconsin	0.0314
Wyoming	0.0254

State	Rate
Alaska	0.0130
Nevada	0.0202
Georgia	0.0229
Colorado	0.0235
Virginia	0.0245
South Carolina	0.0247
Utah	0.0248
Maryland	0.0249
Texas	0.0252
Wyoming	0.0254
North Carolina	0.0255
Louisiana	0.0261
New Mexico	0.0262
Tennessee	0.0264
Delaware	0.0264
New Hampshire	0.0266
Kentucky	0.0268
Washington	0.0269
California	0.0269
Michigan	0.0272
Alabama	0.0273
Idaho	0.0273
Hawaii	0.0274
Arizona	0.0275
Mississippi	0.0281
Vermont	0.0281
Indiana	0.0284
Ohio	0.0285
Montana	0.0290
West Virginia	0.0291
New Jersey	0.0292
Oregon	0.0294
Illinois	0.0295
District of Columbia	0.0300
Oklahoma	0.0300
Maine	0.0301
Arkansas	0.0301
New York	0.0302
Missouri	0.0311
Wisconsin	0.0314
Minnesota	0.0315
Connecticut	0.0320
Pennsylvania	0.0322
Massachusetts	0.0323
Florida	0.0342
Rhode Island	0.0342
Kansas	0.0343
Nebraska	0.0349
South Dakota	0.0370
Iowa	0.0373
North Dakota	0.0374