



Parkinson Disease Mortality Among Adults Age 65 and Older: United States, 2024

Ellen A. Kramarow, Ph.D., Loraine A. Escobedo, Ph.D., M.P.H., and Betzaida Tejada-Vera, M.S.

Key findings

Data from the National Vital Statistics System

- In 2024, the age-adjusted Parkinson disease death rate for adults age 65 and older was 72.0 deaths per 100,000 standard population.
- Parkinson disease death rates increased from 2014 (57.2) through 2021 (76.3), but the rate in 2024 was lower than in 2021.
- In 2024, Parkinson disease death rates in adults age 65 and older were higher for men than for women in each age group (65–74, 75–84, and 85 and older).
- Death rates from Parkinson disease were highest among White non-Hispanic adults age 65 and older compared with other race and Hispanic-origin groups.
- Parkinson disease death rates varied by state of residence, ranging from 47.7 in New York to 102.1 in Utah.

Introduction

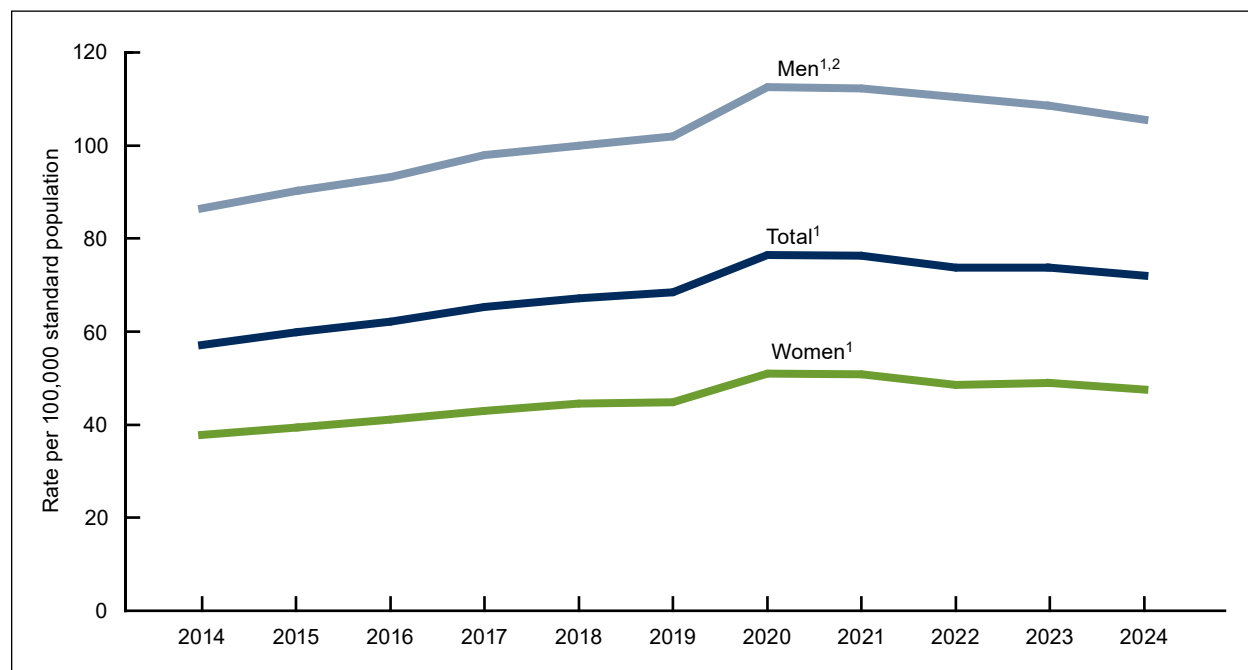
Parkinson disease is a progressive neurodegenerative disease characterized by tremors, muscle stiffness, slowness in movement, and balance problems. Symptoms tend to worsen over time and sometimes include difficulties in cognitive functioning and other nonmotor symptoms (1,2). In 2024, it was the ninth leading cause of death for adults age 65 and older (3). This report presents Parkinson disease mortality for adults age 65 and older by sex, age group, race and Hispanic origin, and state of residence. Trends in Parkinson disease death rates during 2014–2024 are also presented.



Trends

- The age-adjusted Parkinson disease death rate for adults age 65 and older increased from 2014 (57.2 deaths per 100,000 standard population) through 2021 (76.3). The death rate in 2024 (72.0) was lower than in 2021 (Figure 1, Table 1).
- Parkinson disease death rates for men were about 2 times higher than death rates for women throughout the period.

Figure 1. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by sex: United States, 2014–2024



¹Significantly increasing trend from 2014 to 2021 ($p < 0.05$); decreasing but not statistically significant trend from 2021 to 2024. Rates in 2024 were lower than in 2021 ($p < 0.05$).

²Significantly higher death rates than those for women throughout the period ($p < 0.05$).

NOTE: Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population.

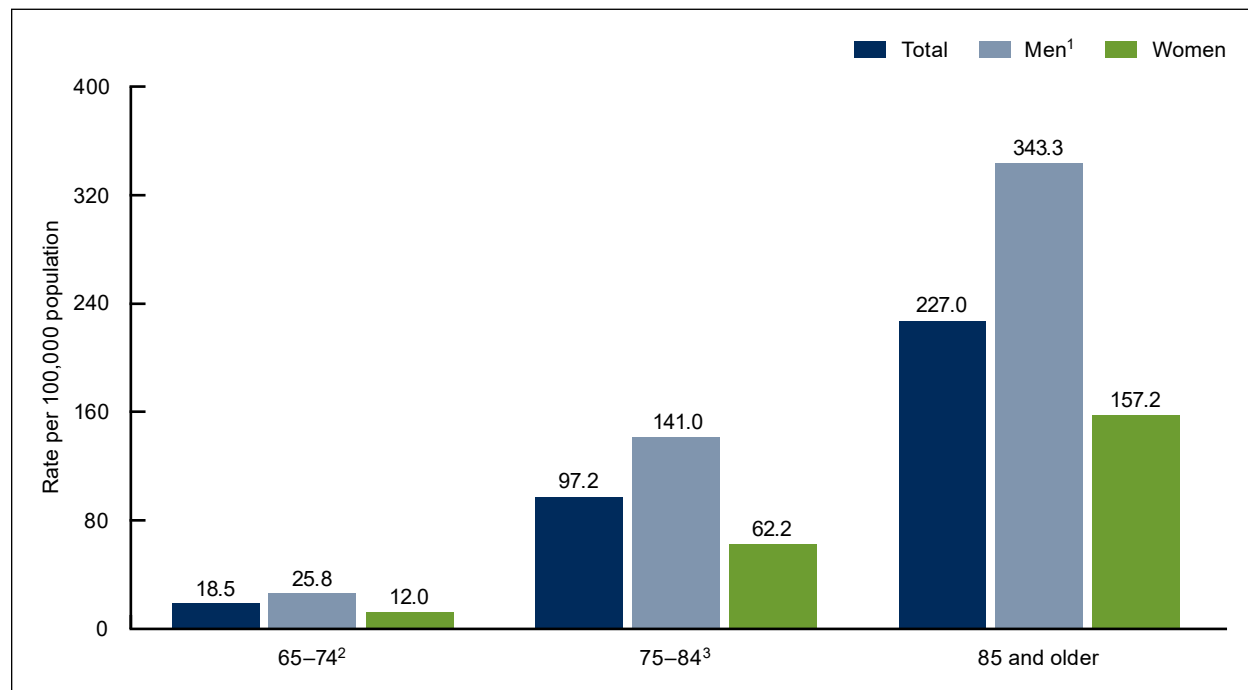
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Age and sex

- In 2024, Parkinson disease death rates in adults age 65 and older were higher for men than women in each age group (65–74, 75–84, and 85 and older) (Figure 2, Table 2).
- Parkinson disease death rates increased with age, from 18.5 deaths per 100,000 population for adults ages 65–74 to 97.2 for adults 75–84 to 227.0 for adults 85 and older.
- Parkinson disease death rates for men increased from 25.8 for ages 65–74 to 141.0 for 75–84 to 343.3 for 85 and older.

- Parkinson disease death rates for women increased from 12.0 for ages 65–74 to 62.2 for 75–84 to 157.2 for 85 and older.

Figure 2. Death rate for Parkinson disease among adults age 65 and older, by sex and age group: United States, 2024



¹Significantly different from women for all age groups ($p < 0.05$).

²Significantly different from 75–84 and 85 and older for all groups ($p < 0.05$).

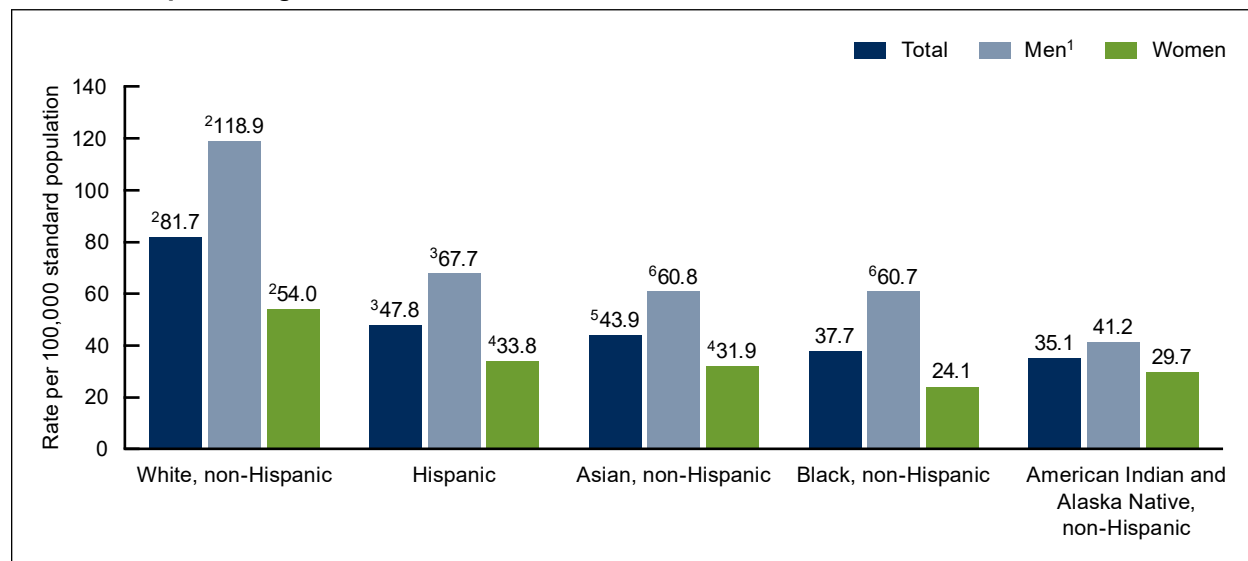
³Significantly different from 85 and older for all groups ($p < 0.05$).

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Race and ethnicity and sex

- Death rates from Parkinson disease were highest among White non-Hispanic (subsequently, White) adults age 65 and older compared with other race and Hispanic-origin groups (Figure 3, Table 3).
- Among men age 65 and older, Parkinson disease death rates were highest among White men (118.9 per 100,000 standard population) compared with Hispanic (67.7), Asian non-Hispanic (subsequently, Asian) (60.8), Black non-Hispanic (subsequently, Black) (60.7), and American Indian and Alaska Native non-Hispanic (subsequently, American Indian and Alaska Native) (41.2) men.
- Among women age 65 and older, Parkinson disease death rates were highest among White women (54.0) compared with Hispanic (33.8), Asian (31.9), American Indian and Alaska Native (29.7), and Black (24.1) women.

Figure 3. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by sex and race and Hispanic origin: United States, 2024



¹Significantly different from women for all race and Hispanic-origin groups except for American Indian and Alaska Native non-Hispanic ($p < 0.05$).

²Significantly different from Hispanic, Asian non-Hispanic, Black non-Hispanic, and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).

³Significantly different from Asian non-Hispanic, Black non-Hispanic, and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).

⁴Significantly different from Black non-Hispanic women ($p < 0.05$).

⁵Significantly different from Black non-Hispanic and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).

⁶Significantly different from American Indian and Alaska Native non-Hispanic men ($p < 0.05$).

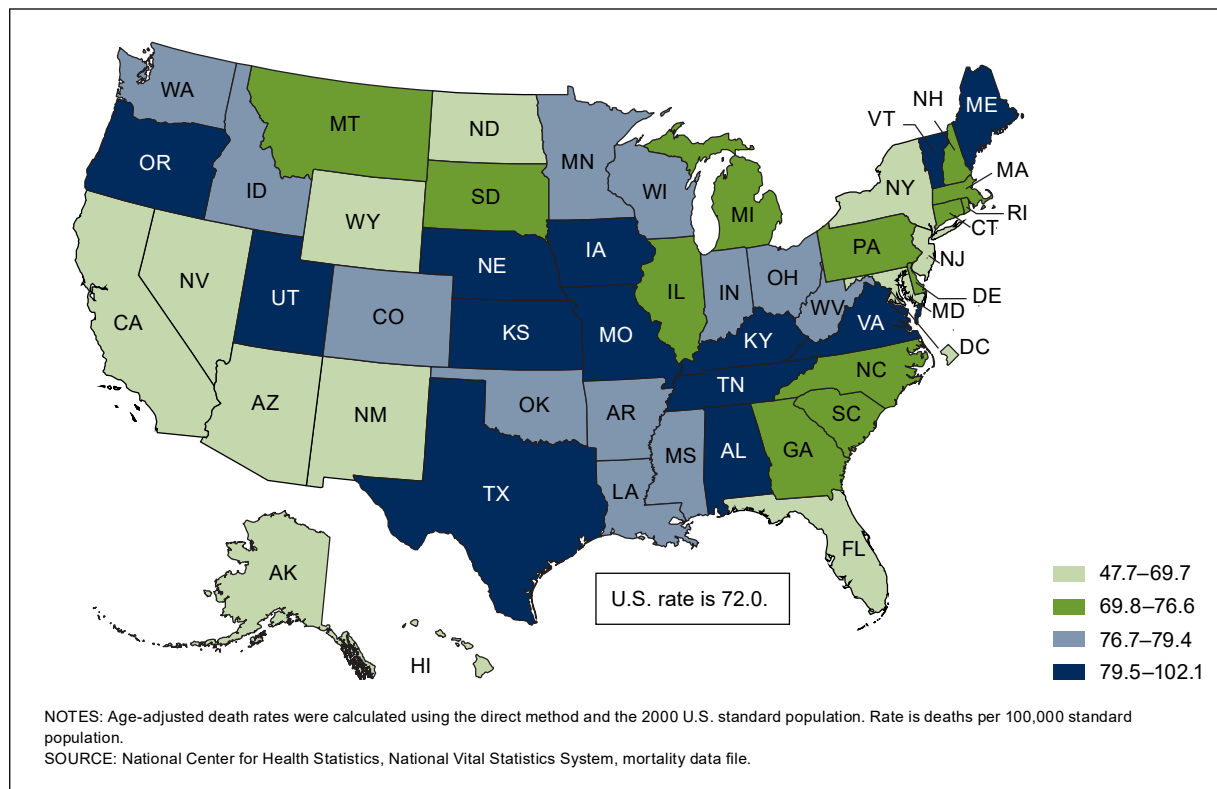
NOTES: Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Misclassification of race and Hispanic origin on death certificates results in the underestimation of death rates by 3% for Asian non-Hispanic and Hispanic people and by 34% for American Indian and Alaska Native non-Hispanic people. People of Hispanic origin may be of any race. For race categories, only one race was reported on the death certificate.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

State of residence

- Age-adjusted death rates for Parkinson disease varied by state of residence, from 47.7 deaths per 100,000 standard population in New York to 102.1 in Utah (Figure 4, Table 4).
- The states with the highest death rates were Utah (102.1), Kansas (90.6), Nebraska (85.7), Maine (85.0), and Oregon (84.2).
- The lowest death rates for Parkinson disease were in New York (47.7), Alaska (49.5), the District of Columbia (51.5), Wyoming (54.8), and Hawaii (55.0).

Figure 4. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by state: United States, 2024



Summary

This report describes Parkinson disease mortality among adults age 65 and older. In 2024, the age-adjusted death rate for Parkinson disease among adults age 65 and older was 72.0 deaths per 100,000 standard population. Overall and for both men and women, death rates increased from 2014 through 2021 and were lower in 2024 than in 2021. Men had higher death rates from Parkinson disease overall and in each age group. White adults had higher death rates from Parkinson disease than Hispanic, Asian, Black, and American Indian and Alaska Native adults. Variation in death rates was seen by state of residence, ranging from 47.7 in New York to 102.1 in Utah.

Data source and methods

Estimates in this report are based on the National Vital Statistics System mortality files, accessed via CDC WONDER (3). Parkinson disease deaths are identified using the *International Classification of Diseases, 10th Revision* underlying cause-of-death codes G20 (Parkinson disease) and G21 (Secondary parkinsonism) (4). Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population (5). Pairwise comparisons of rates were conducted using a z test with an alpha level of 0.05. Terms such as higher than and lower than indicate a statistically significant difference. Trends in death rates

were evaluated using the Joinpoint Regression Program (Version 5.0.2) (6). Joinpoint software fitted weighted least-squares regression models to the rates on the log-transformation scale. The permutation tests for model significance (number of joinpoints) were set at an overall alpha level of 0.05 (6,7).

Race and Hispanic origin were categorized based on the 1997 Office of Management and Budget standards for federal statistical and administrative reporting (8). All race categories are single race, meaning that only one race was reported on the death certificate. Data shown for the Hispanic population include people of any race. Misclassification of race and Hispanic origin on death certificates results in the underestimation of death rates by as much as 34% for American Indian and Alaska Native people and 3% for Asian and Hispanic people (9,10).

About the authors

Ellen A. Kramarow and Loraine A. Escobedo are with the National Center for Health Statistics (NCHS), Division of Analysis and Epidemiology, and Betzaida Tejada-Vera is with the NCHS Division of Vital Statistics.

References

1. National Institute on Aging. Parkinson's disease: Causes, symptoms, and treatments. 2022. Available from: <https://www.nia.nih.gov/health/parkinsons-disease/parkinsons-disease-causes-symptoms-and-treatments>.
2. Armstrong MJ, Okun MS. Diagnosis and treatment of Parkinson disease: A review. *JAMA*. 2020 Feb;323(6):548–60. PMID: 32044947. DOI: <https://www.doi.org/10.1001/jama.2019.22360>.
3. Centers for Disease Control and Prevention. CDC WONDER. 2018–2024 underlying cause of death by single-race categories. 2026. Available from: <https://wonder.cdc.gov/ucd-icd10-expanded.html>.
4. World Health Organization. International statistical classification of diseases and related health problems, 10th revision (ICD–10). 5th ed. 2016.
5. Anderson RN, Rosenberg HM. Age standardization of death rates: Implementation of the year 2000 standard. *Natl Vital Stat Rep*. 1998 Oct; 47(3):1–16. PMID: 9796247.
6. National Cancer Institute. Joinpoint Regression Program (Version 5.0.2) [computer software]. 2023.
7. Ingram DD, Malec DJ, Makuc DM, Kruszon-Moran D, Gindi RM, Albert M, et al. National Center for Health Statistics guidelines for analysis of trends. *Vital Health Stat 2*. 2018 Apr;(179):1–71. PMID: 29775435.
8. Office of Management and Budget. Revisions to the standards for the classification of federal data on race and ethnicity. *Fed Regist*. 1997 Oct;62(210):58782–90.

9. Arias E, Heron M, Hakes J. The validity of race and Hispanic-origin reporting on death certificates in the United States: An update. *Vital Health Stat 2*. 2016 Aug;(172):1–21. PMID: 28436642.
10. Arias E, Xu JQ, Curtin S, Bastian B, Tejada-Vera B. Mortality profile of the non-Hispanic American Indian or Alaska Native population, 2019. *Natl Vital Stat Rep*. 2021 Nov;70(12):1–27. PMID: 34842523. DOI: <https://dx.doi.org/10.15620/cdc:110370>.

Figure tables

Data table for Figure 1. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by sex: United States, 2014–2024

Year	Total ¹		Men ^{1,2}		Women ¹	
	Number	Deaths per 100,000 standard population	Number	Deaths per 100,000 standard population	Number	Deaths per 100,000 standard population
2014	25,482	57.2	15,240	86.5	10,242	37.8
2015	27,269	59.8	16,388	90.2	10,881	39.4
2016	28,929	62.2	17,373	93.2	11,556	41.1
2017	31,177	65.3	18,872	97.9	12,305	43.0
2018	32,988	67.1	19,943	99.9	13,045	44.5
2019	34,435	68.4	21,015	101.9	13,420	44.8
2020	39,316	76.4	23,837	112.5	15,479	51.0
2021	37,568	76.3	22,952	112.3	14,616	50.8
2022	38,931	73.8	23,867	110.4	15,064	48.5
2023	39,238	73.8	24,133	108.6	15,105	49.0
2024	39,935	72.0	24,690	105.6	15,245	47.6

¹Significantly increasing trend from 2014 to 2021 ($p < 0.05$); decreasing but not statistically significant trend from 2021 to 2024. Rates in 2024 were lower than in 2021 ($p < 0.05$).

²Significantly higher death rates than those for women throughout the period ($p < 0.05$).

NOTE: Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population.

SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 2. Death rate for Parkinson disease among adults age 65 and older, by sex and age group: United States, 2024

Age group	Total		Men ¹		Women	
	Number	Deaths per 100,000 population	Number	Deaths per 100,000 population	Number	Deaths per 100,000 population
65–74 ²	6,562	18.5	4,308	25.8	2,254	12.0
75–84 ³	18,764	97.2	12,095	141.0	6,669	62.2
85 and older	14,609	227.0	8,287	343.3	6,322	157.2

¹Significantly different from women for all age groups ($p < 0.05$).
²Significantly different from 75–84 and 85 and older for all groups ($p < 0.05$).
³Significantly different from 85 and older for all groups ($p < 0.05$).
 SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 3. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by sex and race and Hispanic origin: United States, 2024

Race and Hispanic origin	Total		Men ¹		Women	
	Number	Deaths per 100,000 standard population	Number	Deaths per 100,000 standard population	Number	Deaths per 100,000 standard population
White, non-Hispanic	34,056	² 81.7	21,212	² 118.9	12,844	² 54.0
Hispanic	2,403	³ 47.8	1,402	³ 67.7	1,001	⁴ 33.8
Asian, non-Hispanic	1,289	⁵ 43.9	748	⁶ 60.8	541	⁴ 31.9
Black, non-Hispanic	1,879	37.7	1,139	⁶ 60.7	740	24.1
American Indian and Alaska Native, non-Hispanic	119	35.1	64	41.2	55	29.7

¹Significantly different from women for all race and Hispanic-origin groups except for American Indian and Alaska Native non-Hispanic ($p < 0.05$).
²Significantly different from Hispanic, Asian non-Hispanic, Black non-Hispanic, and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).
³Significantly different from Asian non-Hispanic, Black non-Hispanic, and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).
⁴Significantly different from Black non-Hispanic women ($p < 0.05$).
⁵Significantly different from Black non-Hispanic and American Indian and Alaska Native non-Hispanic people ($p < 0.05$).
⁶Significantly different from American Indian and Alaska Native non-Hispanic men ($p < 0.05$).
 NOTES: Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Misclassification of race and Hispanic origin on death certificates results in the underestimation of death rates by 3% for Asian non-Hispanic and Hispanic people and by 34% for American Indian and Alaska Native non-Hispanic people. People of Hispanic origin may be of any race. For race categories, only one race was reported on the death certificate.
 SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Data table for Figure 4. Age-adjusted death rate for Parkinson disease among adults age 65 and older, by state: United States, 2024

Area	Number	Deaths per 100,000 standard population
United States	39,935	72.0
Alabama	694	81.3
Alaska	41	49.5
Arizona	950	67.8
Arkansas	399	77.4
California	4,050	67.5
Colorado	639	76.9
Connecticut	503	75.5
Delaware	141	71.5
District of Columbia	45	51.5
Florida	3,306	66.4
Georgia	1,102	72.2
Hawaii	174	55.0
Idaho	242	79.2
Illinois	1,506	72.5
Indiana	842	77.8
Iowa	456	79.6
Kansas	438	90.6
Kentucky	598	82.1
Louisiana	550	77.4
Maine	251	85.0
Maryland	679	67.7
Massachusetts	878	71.9
Michigan	1,280	72.9
Minnesota	757	78.4
Mississippi	362	78.0
Missouri	893	84.1
Montana	152	73.7
Nebraska	272	85.7
Nevada	303	60.6
New Hampshire	189	70.9
New Jersey	945	59.8
New Mexico	266	69.3
New York	1,698	47.7
North Carolina	1,288	74.8
North Dakota	74	55.9
Ohio	1,555	76.9
Oklahoma	489	79.0
Oregon	633	84.2

Pennsylvania	1,721	70.0
Rhode Island	141	70.9
South Carolina	712	76.6
South Dakota	113	73.0
Tennessee	889	79.7
Texas	3,020	80.4
Utah	369	102.1
Vermont	108	82.7
Virginia	1,162	83.5
Washington	947	78.3
West Virginia	275	78.7
Wisconsin	785	76.8
Wyoming	53	54.8

NOTES: Age-adjusted death rates were calculated using the direct method and the 2000 U.S. standard population. Rate is deaths per 100,000 standard population.
SOURCE: National Center for Health Statistics, National Vital Statistics System, mortality data file.

Suggested citation

Kramarow EA, Escobedo LA, Tejada-Vera B. Parkinson disease mortality among adults age 65 and older: United States, 2024. NCHS Data Brief. 2026 Jun;(563):1–11. DOI: <https://dx.doi.org/10.15620/cdc/252450>.

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

National Center for Health Statistics

Carolyn M. Greene, M.D., *Acting Director*
Amy M. Branum, Ph.D., *Associate Director for Science*

Division of Analysis and Epidemiology

Irma E. Arispe, Ph.D., *Director*
Kimberly A. Lochner, Sc.D., *Associate Director for Science*

Division of Vital Statistics

Paul D. Sutton, Ph.D., *Director*
Andrés A. Berruti, Ph.D., M.A., *Associate Director for Science*

For email updates on NCHS publication releases, subscribe online:
www.cdc.gov/nchs/updates.

For questions or general information about NCHS:
Tel: 1-800-CDC-INFO (1-800-232-4636) | TTY: 1-888-232-6348
Internet: www.cdc.gov/nchs | Online request form: www.cdc.gov/info

ISSN 1941-4927 Print ed. | ISSN 1941-4935 Online ed.

CS364766