



Decreased Life Expectancy in Virginia, 2020

VIRGINIA DEPARTMENT OF HEALTH

Summary Points

Life expectancy is a key population-level health status indicator. Life expectancy at birth summarizes the mortality pattern that prevails across all age groups - children and adolescents, adults and the elderly. This report provides life expectancy estimates for Virginia for 2020, highlighting the decrease in life expectancy that occurred largely due to the COVID-19 pandemic.

Methods

Life expectancy at birth is the average number of years a group of infants would live if they experienced, throughout their lives, the age-specific death rates for a given calendar year. The Virginia Department of Health (VDH) collects Virginia's official vital statistics, analyzes the data, and makes this information available to the public. Life expectancy in 2019 and 2020 was calculated using the National Center for Health Statistics' (NCHS) abridged period life table method¹ based on death counts and birth counts from Virginia. Life expectancy estimates for Virginia calculated by the NCHS incorporate Medicare data and are therefore slightly different from the life expectancy estimates calculated by VDH. Population estimates were derived from the annual bridged race postcensal estimates produced by NCHS with the approval of the U.S. Census Bureau. Death rates per 100,000 population for the 14 leading causes of death in 2019 and COVID-19 in Virginia were age-adjusted using the 2000 U.S. standard population.

Results

In 2020, life expectancy at birth for the total Virginia population was 78.3 years, which was a decrease of 1.4 years from 79.7 years in 2019.

Life expectancy at birth for Virginia males was 75.5 years in 2020, a decrease of 1.7 years from 77.2 in 2019. For Virginia females, life expectancy was 81.0 years in 2020, a decrease of 1.3 years from 82.3 in 2019. The difference in life expectancy between the sexes in Virginia in 2020 was 5.5 years, increasing from 5.1 years in 2019.

Among the White, non-Hispanic population in Virginia, life expectancy in 2020 was 78.7 years, a decrease of 1.1 years from 79.8 in 2019. Among the Black, non-Hispanic population life expectancy in 2020 was 73.9 years, a decrease of 2.4 years from 76.3 in 2019. The White, non-Hispanic life expectancy advantage compared to the Black, non-Hispanic population in Virginia increased from 3.5 years in 2019 to 4.8 years in 2020.

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Effect of changes in cause-specific mortality on life expectancy

Increases or decreases in life expectancy represent the combination of positive and negative contributions of cause-specific death rates. In 2020, the decrease in life expectancy resulted from net increases in cause-specific mortality rates. The biggest age-adjusted rate increases in cause-specific mortality in 2020 compared to 2019 in Virginia were due to:

- COVID-19 (2020 55.7 deaths/100,000; 2019 0.0 deaths/100,000; 55.7 deaths/100,000 increase)
- Unintentional injury (6.4 deaths/100,000 increase)
- Heart disease (2.0 deaths/100,000 increase)
- Chronic liver disease and cirrhosis (1.8 deaths/100,000 increase)
- Diabetes (1.8 deaths/100,000 increase)
- Alzheimer disease (1.7 deaths/100,000 increase)

Deaths from Parkinson disease, cancer, stroke, hypertension, suicide, and influenza and pneumonia all also increased in 2020 but each increased less than 1.7 deaths/100,000.

Not all cause-specific death rates increased in 2020 – death rates for chronic lower respiratory disease (3.2 deaths/100,000 decrease), septicemia (1.0 deaths/100,000 decrease), and kidney disease (0.4 deaths/100,000 decrease) all decreased.

Discussion and Conclusion

The COVID-19 pandemic led to the largest decrease in life expectancy in Virginia in 2020 since the 1918 influenza pandemic. Most deaths that led to this large decrease in life expectancy in 2020 were caused by COVID-19, but smaller cause-specific death rate increases also contributed. To what degree these smaller cause-specific death rate increases were also due to the pandemic is unclear. Over the last few years, life expectancy improvements have largely stalled, with life expectancies of 79.5 years in 2016 and 2018 and 79.4 years in 2017, due largely to record increases in drug overdose deaths – drug overdose deaths continued to increase in 2020 and made up the majority of the unintentional injury death category increase.

Virginia's life expectancy remains longer than that of the U.S. The U.S. provisional life expectancy in 2020 at 77.3 years² was shorter than Virginia's in 2020, and decreased by a slightly larger amount, 1.5 years, than Virginia's did in 2019.

Furthermore, the COVID-19 pandemic has exacerbated long standing health disparities. For example, the female life expectancy advantage increased to 5.5 years in 2020. The White, non-Hispanic life expectancy advantage compared to Black, non-Hispanic life expectancy in Virginia increased to 4.8 years in 2020.

COVID-19 death rates are expected to be higher in 2021 than 2020 and continue to depress life expectancy in 2021. Achieving high levels of immunization through up-to-date COVID-19 vaccination coverage remains a critical strategy for reducing the effects of the pandemic on Virginians and for improving life expectancy in 2022.

References

1. Arias E, Xu JQ. United States life tables, 2018. National Vital Statistics Reports; vol 69, no 12. Hyattsville, MD: National Center for Health Statistics. 2020.
2. Arias E, Tejada-Vera B, Ahmad F, Kochanek KD. Provisional life expectancy estimates for 2020. Vital Statistics Rapid Release; no 15. Hyattsville, MD: National Center for Health Statistics. July 2021.

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