

Introduction

Background:

- Georgia was ranked 14th for COVID-19 death rates by state or territory as of April 12, 2023 (401 per 100,000 population) (1).
- COVID-19 caused an estimated 32,236 deaths in Georgia during 2020–2021.
- Georgia had the third highest rate of human immunodeficiency virus (HIV) prevalence in 2020 among states (538.2 per 100,000) (2).
- HIV attacks immune cells and can leave a person open to other infections if HIV is not treated effectively (3).
- CD4 count is a measure of immune cells in the blood and is a marker for HIV progression (3).
- People with HIV (PWH) may be especially vulnerable to COVID-19 infection and worse outcomes due to compromised immunity (4).
- Risk factors for COVID-19 mortality among PWH include older age, sex, race, and having a CD4 count below 200 cells/mm³ (4).

Objective:

- Describe the impact of COVID-19 on PWH in Georgia.

Methods

Data sources:

- Georgia's COVID-19 surveillance and enhanced HIV/AIDS Reporting System (eHARS).

Analysis:

- Confirmed or probable COVID-19 deaths were matched to HIV cases in eHARS by death certificate number.
 - Confirmed COVID-19 deaths occurred when an individual met the confirmed COVID-19 case definition (PCR or sequencing) and there was evidence that COVID-19 was the cause of death or significant contributor to death (5).
 - Probable COVID-19 deaths occurred when an individual met the probable COVID-19 case definition (symptoms and close contact OR antigen detection OR death certificate) and there was evidence that COVID-19 was the cause of death or significant contributor to death (5).
- The last CD4 count in the 12 months before death for COVID-19 deaths among PWH or in 2021 for all living PWH was used to look at HIV progression, and was categorized as <100, 100–199, 200–349, 350–499, and 500+ cells/mm³. Those without a CD4 count in the last 12 months were excluded. CD4 counts within one month of death were excluded to avoid decreases related to COVID-19 illness.
- We determined the number of deaths attributed to COVID-19 among PWH in 2020–2021 and describe which groups were disproportionately affected compared to PWH living in 2021.

Results

- There were 724 deaths among PWH in 2017, 780 in 2018, and 748 in 2019 compared to 842 in 2020 and 903 in 2021 in Georgia.
- Based on the HIV and COVID-19 surveillance match, there were 84 COVID-19 deaths in 2020 and 167 in 2021 among PWH (n=251).
- A higher percent of PWH who died of COVID-19 compared to all living PWH were Black/African American (74.5% versus 68.0%), female (31.9% versus 23.3%), over 60 (46.2% versus 18.8%), and residents of central (29.9% versus 18.0%) and southern Georgia (17.1% versus 11.9%) (Table 1).
- Residents of northern Georgia (3.2% versus 5.0%) and metro Atlanta (49.8% versus 63.6%), in contrast, accounted for a smaller proportion of deaths (Table 1).

Table 1. COVID-19 deaths among PWH in 2020–2021 and PWH living in 2021.

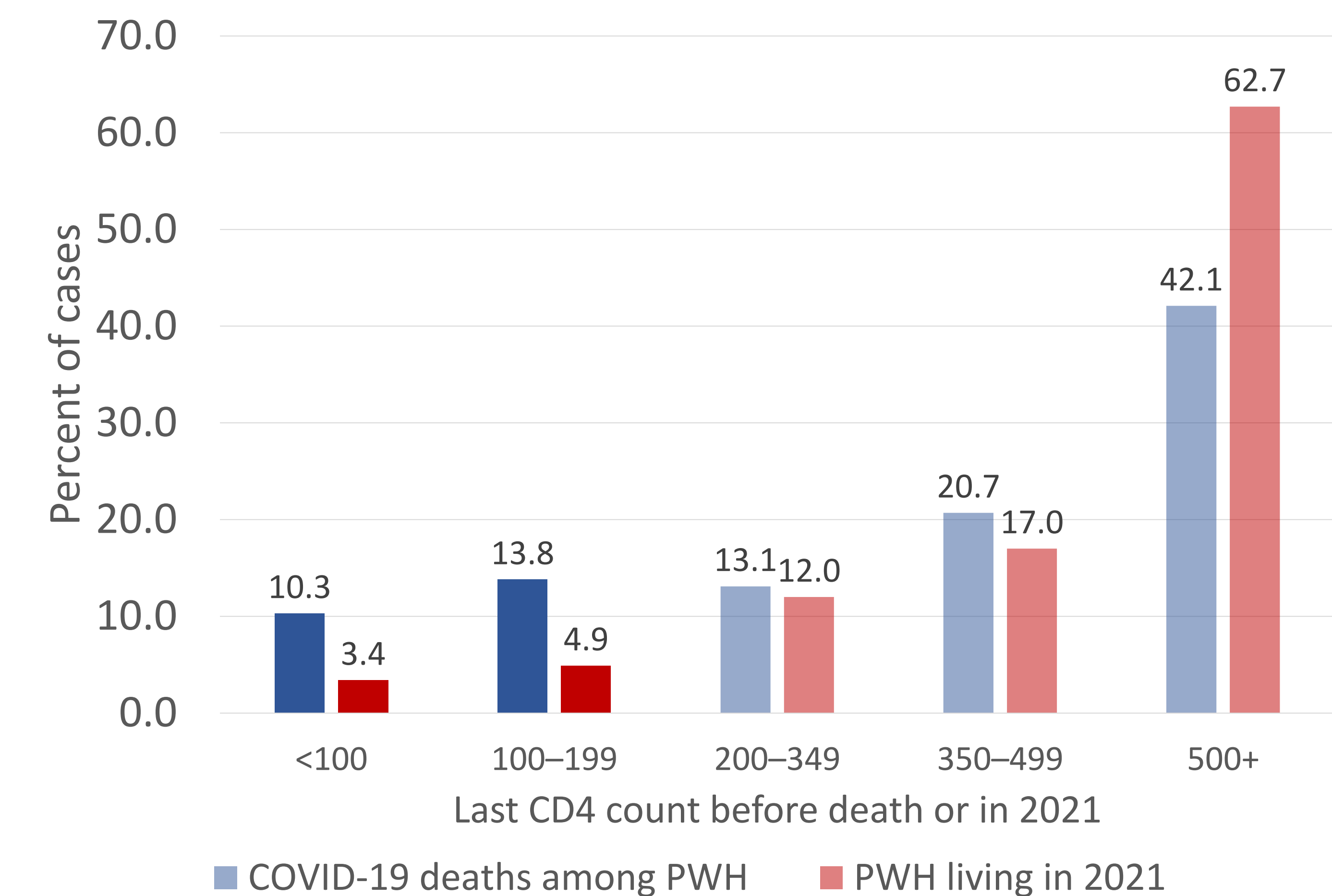
	COVID-19 deaths among PWH, n (%)	PWH living in 2021, n (%)
Total	251 (100)	61,628 (100)
Race/ethnicity**		
Black/African American	187 (74.5)	41,920 (68.0)
White	41 (16.3)	10,473 (17.0)
Hispanic/Latino	12 (4.8)	4,709 (7.6)
Other	11 (4.4)	4,526 (7.3)
Sex at birth		
Female	80 (31.9)	14,340 (23.3)
Male	171 (68.1)	47,218 (76.6)
Age at death/in 2021		
13-19	0 (0.0)	278 (0.5)
20-29	6 (2.4)	6,635 (10.8)
30-39	20 (8.0)	14,813 (24.0)
40-49	35 (13.9)	12,607 (20.5)
50-59	74 (29.5)	15,727 (25.5)
60+	116 (46.2)	11,568 (18.8)
Area of Georgia***		
Northern	8 (3.2)	3,070 (5.0)
Metro Atlanta	125 (49.8)	39,197 (63.6)
Central	75 (29.9)	11,070 (18.0)
Southern	43 (17.1)	7,305 (11.9)

**Race/ethnicity should be considered non-Hispanic/Latino unless otherwise noted.
 ***Area of Georgia: **Northern**=Dade, Calhoun, Walker, Chattahoochee, Gordon, Floyd, Bartow, Polk, Paulding, Haralson, Whitfield, Murray, Fannin, Gilmer, Pickens, Cherokee, Union, Towns, Rabun, Lumpkin, White, Habersham, Dawson, Stephens, Forsyth, Hall, Banks, Franklin, and Hart counties.
Metro Atlanta=Cobb, Douglas, Fulton, Clayton, Gwinnett, Newton, Rockdale, and DeKalb counties.
Central=Carroll, Heard, Coweta, Fayette, Spalding, Henry, Butts, Troup, Meriwether, Pike, Lamar, Upson, Johnson, Laurens, Bleckley, Treutlen, Pulaski, Dodge, Wheeler, Montgomery, Wilcox, Telfair, Jasper, Putnam, Hancock, Monroe, Jones, Baldwin, Washington, Bibb, Crawford, Peach, Houston, Twiggs, Wilkinson, Wilkes, Taliaferro, Lincoln, Warren, McDuffie, Columbia, Glascock, Richmond, Jefferson, Burke, Emanuel, Jenkins, Screven, Harris, Talbot, Muscogee, Chattahoochee, Marion, Taylor, Stewart, Webster, Schely, Macon, Sumter, Dooley, Crisp, Quitman, Randolph, Clay, Jackson, Madison, Elbert, Barrow, Clarke, Walton, Oconee, Oglethorpe, Morgan, and Greene counties.
Southern=Turner, Ben Hill, Irwin, Tift, Berrien, Cook, Lanier, Brooks, Lowndes, Echols, Terrell, Lee, Calhoun, Dougherty, Worth, Early, Miller, Baker, Mitchell, Colquitt, Seminole, Decatur, Grady, Thomas, Effingham, Bryan, Chatham, Liberty, Long, McIntosh, Glynn, Camden, Candler, Bulloch, Evans, Toombs, Tattnall, Jeff Davis, Appling, Wayne, Coffee, Bacon, Pierce, Atkinson, Ware, Brantley, Clinch, and Charlton counties.

Results

- The last CD4 count was lower for PWH who died of COVID-19 compared to all living PWH in 2021 (10.3% versus 3.4% for <100, and 13.8% versus 4.9% for 100–199) (Figure 1).

Figure 1. Last CD4 count for COVID-19 deaths among PWH in 2020–2021 and PWH living in 2021.



Discussion and Conclusion

- The disproportionate impact of COVID-19 deaths among PWH who are older, Black/African American, and residents of areas outside of metro Atlanta is mostly consistent with patterns in overall COVID-19 deaths in Georgia but it can be hard to fully attribute deaths to COVID-19.
- This analysis demonstrates the increased risk of death from COVID-19 for PWH with advanced immunosuppression.
- COVID-19 vaccination remains an important protective measure that is recommended for all PWH, especially those with advanced immunosuppression.

References

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