Age-Adjusted Mortality Rates Among Persons with HIV, by Race and Ethnicity and Cause of Death

#1055

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BACKGROUND

During 2010–18, the age-adjusted mortality rate (AAMR) among persons with HIV (PWH) in the United States declined by 37%, primarily from a 48% reduction in HIV-associated deaths. We used public health surveillance data to determine how the COVID-19 pandemic affected mortality by race and ethnicity and cause of death (CoD) among PWH in California.

METHODS

Data Sources: Death certificate from California Vital Records during 2018–21
Statistical Analysis:

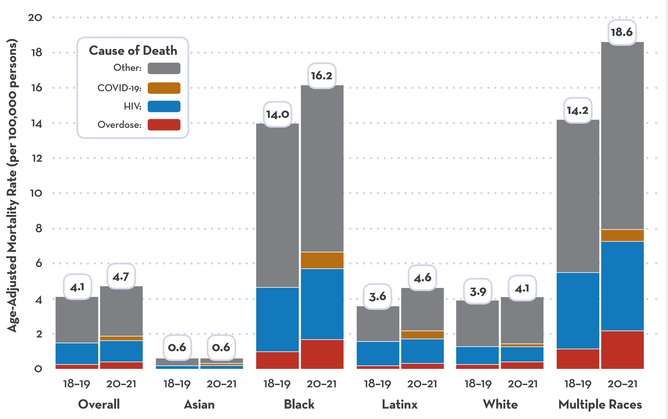
- Categorized immediate CoD using International Classification of Diseases, Tenth Revision codes, excluding records missing CoD
- Calculated AAMRs/100,000 persons by race/ethnicity and CoD
- Determined percentage changes in AAMRs from 2018–19 (before COVID-19 pandemic) to 2020–21 (during COVID-19 pandemic)

RESULTS

- AAMR among PWH in California **increased 14.6%** from 2018–19 (4.1 deaths/100,000 persons) to 2020–2021 (4.7 deaths/100K).
  - Multiracial (31.2%), Latinx (29.1%), Asian (16.3%), and Black (15.3%) PWH increased more than White (5.2%) PWH.
- HIV-associated AAMR **decreased 2.4%** from 2018–19 to 2020–21.
  - Decreased among White (-7.9%) and Latinx (-0.2%) PWH, increased among multiracial (13.9%), Asian (9.0%), or Black (4.8%) PWH.
- Overdose AAMR **increased 63.7%** from 2018-19 to 2020-21.
  - Black (84.1.%), multiracial (83.1%), and Latinx (77.4%) PWH increased more than White (41.7%) PWH.
- COVID-19 AAMRs were higher among Black (0.7/100K), multiracial (0.7/100K), and Latinx (0.5/100K) PWH, compared with White PWH (0.1 deaths/100K).

FIGURE 1

Age-Adjusted Mortality Rates among People with HIV during 2018–19 vs 2020–21 by Race/Ethnicity and Selected Causes of Death



Age Adjusted Mortality Rates (AAMR) rose 14.6% with largest increases in non-white populations.

AAMR due to HIV decreased by 2.4% overall but rose in Black, Asian and multiracial groups.

AAMR due to overdose rose 63.7% and was the second leading cause of death after HIV in 2020-21.

COVID-19 was the fourth leading cause of death in 2020-21, with higher mortality rates in Black, Latinx and multiracial groups.

Interventions directed at overdose-associated deaths and disparities in HIV mortality, primarily for Black and multiracial PWH, have potential to reverse pandemic-era mortality trends.

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TABLE 1

Age-Adjusted Mortality Rates Among Persons with HIV During 2018–19 and 2020–21 by Race/Ethnicity and Causes of Death

Race	Cause of Death	2018–19 N (%)	2018–19 AAMR (95% CI)	2020–21 N (%)	2020–21 AAMR (95% CI)	AAMR % Change (2018–19 *vs.* 2020–21)
All Races	**Overall**	**3,561**	**4.1 (4.0, 4.3)**	**4,083**	**4.7 (4.6, 4.8)**	**14.6%**
	HIV	1,050 (29.5%)	1.2 (1.2, 1.2)	1,038 (25.4%)	1.2 (1.2, 1.2)	-2.4%
	COVID-19	0 (0.0%)	–	241 (5.9%)	0.3 (0.3, 0.3)	–
	Other	**2,286 (64.2%)**	**2.5 (2.4, 2.5)**	**2,444 (59.9%)**	**2.6 (2.6, 2.7)**	**5.4%**
	Overdose	**225 (6.3%)**	**0.3 (0.2, 0.3)**	**360 (8.8%)**	**0.4 (0.4, 0.5)**	**63.7%**
White	Overall	1,566	3.9 (3.8, 4.0)	1,676	4.1 (4.0, 4.2)	5.2%
	HIV	**403 (25.7%)**	**1.0 (1.0, 1.0)**	**373 (22.3%)**	**0.9 (0.9, 0.9)**	**-7.9%**
	COVID-19	0 (0.0%)	–	54 (3.2%)	0.1 (0.1, 0.1)	–
	Other	1,061 (67.8%)	2.4 (2.4, 2.5)	1,105 (65.9%)	2.4 (2.4, 2.5)	-0.7%
	Overdose	102 (6.5%)	0.3 (0.3, 0.4)	144 (8.6%)	0.4 (0.4, 0.4)	41.7%
Latinx	**Overall**	**980**	**3.6 (3.5, 3.6)**	**1,217**	**4.6 (4.5, 4.7)**	**29.1%**
	HIV	363 (37.0%)	1.3 (1.2, 1.3)	358 (29.4%)	1.3 (1.2, 1.3)	-0.2%
	COVID-19	0 (0.0%)	–	125 (10.3%)	0.5(0.5, 0.5)	–
	Other	**566 (57.8%)**	**2.0 (2.0, 2.0)**	**642 (52.8%)**	**2.3 (2.3, 2.4)**	**15.0%**
	Overdose	**51 (5.2%)**	**0.2 (0.2, 0.2)**	**92 (7.6%)**	**0.3 (0.3, 0.3)**	**77.4%**
Black	**Overall**	**720**	**14.0 (13.4, 14.0)**	**823**	**16.2 (15.8, 16.5)**	**15.3%**
	HIV	194 (26.9%)	3.7 (3.6, 3.8)	206 (25.0%)	3.9 (3.8, 4.0)	4.8%
	COVID-19	0 (0.0%)	–	40 (4.9%)	0.7 (0.7, 0.7)	–
	Other	476 (66.1%)	9.0 (8.8, 9.2)	492 (59.8%)	9.1 (8.8, 9.2)	1.0%
	Overdose	**50 (6.9%)**	**1.0 (0.9, 1.0)**	**85 (10.3%)**	**1.8 (1.7, 1.8)**	**84.1%**
Asian	Overall	63	0.6 (0.5, 0.6)	74	0.6 (0.6, 0.7)	16.3%
	HIV	19 (30.2%)	0.2 (0.2, 0.2)	22 (29.7%)	0.2 (0.2, 0.2)	9.0%
	COVID-19	0 (0.0%)	–	11 (14.1%)	0.1 (0.1, 0.1)	–
	Other	41 (65.1%)	0.3 (0.3, 0.3)	37 (50.0%)	0.3 (0.3, 0.3)	-7.6%
	Overdose	3 (4.8%)	0.0 (0.0, 0.1)	4 (5.4%)	0.1 (0.1, 0.1)	94.9%
Multiple Races	**Overall**	**221**	**14.2 (12.8, 13.4)**	**283**	**18.6 (18.1, 18.9)**	**31.2%**
	HIV	**68 (30.8%)**	**4.2 (4.1, 4.3)**	**78 (27.6%)**	**4.8 (4.7, 4.9)**	**13.9%**
	COVID-19	0 (0.0%)	–	10 (3.5%)	0.7 (0.6, 0.7)	–
	Other	**135 (61.1%)**	**8.7 (8.5, 8.9)**	**162 (57.2%)**	**10.4 (9.9, 10.4)**	**19.8%**
	Overdose	**18 (8.1%)**	**1.2 (1.1, 1.3)**	**33 (11.7%)**	**2.1 (2.0, 2.1)**	**83.1%**

Note: Significant differences in AAMRs are **bolded** above.

TABLE 2

Causes of Death Among Persons with HIV During 2018–19 and 2020–21

Cause of Death	2018–19 N (%)	2020–21 N (%)	% Difference in N (2018–19 *vs.* 2020–21)
HIV	1,050 (28.6%)	1,038 (24.2%)	-1.1%
Ischemic heart disease	316 (8.6%)	339 (7.9%)	7.3%
Drug overdose (poisoning/substance use disorders)	225 (6.1%)	360 (8.4%)	60.0%
Symptoms, signs and ill-defined conditions, not elsewhere classified	216 (5.9%)	283 (6.6%)	31.0%
Unknown / Missing value	111 (3.0%)	204 (4.8%)	83.8%
COVID-19	0 (0.0%)	241 (5.6%)	not calculable
Hypertensive heart disease	97 (2.6%)	114 (2.7%)	17.5%
Chronic obstructive pulmonary disease	103 (2.8%)	88 (2.1%)	-14.6%
Trachea, bronchus and lung cancers	97 (2.6%)	91 (2.1%)	-6.2%
Colon and rectum cancers	74 (2.0%)	86 (2.0%)	16.2%