

Trends in diagnoses and prevalence of HIV infection among American Indians/Alaska Natives, United States, 2010 – 2015

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BACKGROUND

- During 2010–2015, American Indians/Alaska Natives (AI/ANs) were one of the two racial/ethnic groups that experienced increasing annual rates of diagnoses of HIV infection.
- At year-end 2014, one in five AI/ANs living with HIV were unaware of their infection and over 40% of those living with diagnosed HIV had not achieved viral suppression.

OBJECTIVE

- To describe trends among AI/ANs in annual diagnoses and prevalence by subgroup and variations by place for the purpose of guiding HIV prevention efforts for this population.

METHODS

- This study includes data reported to the Centers for Disease Control and Prevention (CDC) through June 30, 2017, from all 50 states and D.C.
- Using National HIV Surveillance System (NHSS) data, we determined the number of HIV cases diagnosed as of Dec 31, 2016 among AI/ANs aged ≥ 13 years.
- Annual diagnoses
 - Counts and rates were measured for AI/ANs with HIV infection diagnosed from 2010 through 2016. Using arithmetic change, trends were measured for diagnoses that were made during 2010–2015.
 - Rate ratios were based on data for AI/ANs with HIV diagnoses made during 2016.
 - Results were tabulated by sex, transmission category, age group at diagnosis and place of residence at diagnosis.
- Year-end prevalence
 - Counts and rates were measured for AI/ANs with HIV infection diagnosed through 2015 and alive at year-end. Using estimated annual percent change (EAPC) with 95% confidence intervals (CI), we measured trends in prevalence at year-end.
 - Rate ratios were based on data for AI/ANs with HIV infection diagnosed through 2015.
 - Results were tabulated by sex, age group at year-end, transmission category and last known place of residence.

TABLE 1 – Trends in Annual Numbers and Rates of Diagnoses of HIV Infection Among American Indians/Alaska Natives Aged ≥ 13 years, by Age and by Place of Residence at Diagnosis, United States, 2010–2015

Characteristic		<i>Δ</i> No. Dx ₂₀₁₀₋₂₀₁₅ (%)	Dx Rate ₂₀₁₀ ^a	Dx Rate ₂₀₁₅ ^a	Dx Rate ₂₀₁₆ ^a	<i>Δ</i> Dx Rate ^a 2010-2015 (%)	Dx Rate Ratio ₂₀₁₆
SEX	Male	22.4	13.1	15.1	20.9	15.3	4.6
	Female	12.8	5.1	5.4	4.5	5.9	ref
AGE GROUP	13–34	32.6	11.2	14.3	17.7	27.7	4.8
	35–54	15.3	9.5	11.3	13.6	18.9	3.7
	55+	-27.8	4.3	2.5	3.7	-41.9	ref
REGION	West	3.0	12.6	12.3	17.3	-2.4	2.8
	South	80.6	6.0	10.0	10.1	66.7	1.6
	Northeast	50.0	4.0	5.7	8.5	42.5	1.4
	Midwest	-9.1	7.2	6.2	6.2	-13.9	ref
POPULATION DENSITY of residence at diagnosis	500,000+ (Large Metropolitan)	18.8	12.2	13.5	16.4	10.7	2.3
	50,000 - 499,999 (Metropolitan)	25.5	9.0	10.7	12.5	18.9	1.7
	<50,000 (Nonmetropolitan)	8.7	4.6	4.7	7.1	2.2	ref
	TOTAL	19.6	9.0	10.2	12.5	13.3	

^aRates per 100,000 pop.

Figure 1. Trends in Annual Numbers of Diagnoses of HIV Infection Among American Indians/Alaska Natives Aged ≥ 13 years by Transmission Category, United States, 2010–2015

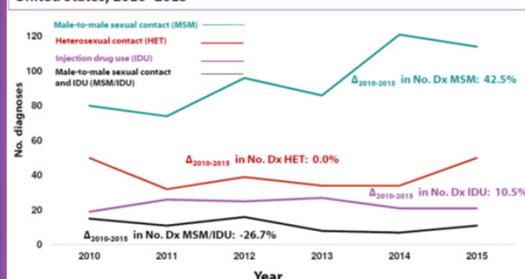


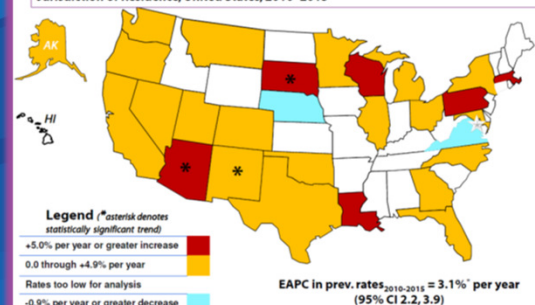
Table 2 – Estimated Annual Percent Change in Prevalence of Diagnosed HIV Infection Among American Indians/Alaska Natives Aged ≥ 13 Years at Diagnosis and Alive at year-end, by Sex, Age, and Last Known Residence, United States, 2010–2015

Characteristic		No. Living, Year-end ₂₀₁₅	EAPC in No. Living ₂₀₁₀₋₂₀₁₅ ^a	Prevalence rates, Year-end ₂₀₁₅ ^b	EAPC in Prevalence Rates ^b 2010-2015	Prevalence rate ratio, Year-end ₂₀₁₅
SEX	Male	2,136	4.8 (3.7, 5.8)	227.2	3.5 (2.5, 4.5)	2.9
	Female	760	3.3 (1.7, 4.9)	77.5	2.0 (0.4, 3.6)	ref
AGE GROUP	35-54	1,606	1.8 (0.7, 2.9)	267.5	2.5 (1.4, 3.6)	3.4
	55+	653	11.1 (9.1, 13.2)	125.1	6.3 (4.3, 8.3)	1.6
	13-34	637	5.6 (3.7, 7.6)	79.8	4.8 (2.9, 6.8)	ref
REGION	West	1,673	4.6 (3.4, 5.8)	198.0	3.4 (2.3, 4.6)	1.8
	Northeast	149	3.5 (0.0, 7.0)	141.0	2.5 (-0.9, 6.0)	1.3
	Midwest	353	4.4 (2.0, 6.8)	109.8	3.4 (1.0, 5.8)	1.0
	South	721	4.1 (2.4, 5.8)	111.2	2.4 (0.8, 4.1)	ref
POPULATION DENSITY at year-end						
500,000+ (Large Metropolitan)		1,711	4.0 (2.9, 5.2)	228.5	2.6 (1.4, 3.7)	3.4
50,000 - 499,999 (Metropolitan)		830	5.6 (4.0, 7.3)	128.6	4.4 (2.8, 6.1)	1.9
<50,000 (Nonmetropolitan)		355	3.0 (0.6, 5.5)	67.4	1.9 (-0.5, 4.4)	ref
Total		2,896	4.3 (3.5, 5.2)	150.8	3.1 (2.2, 3.9)	—

^a95% confidence intervals

^bRates per 100,000 pop.

Figure 2. Estimated Annual Percent Change in Rates of Prevalence of Diagnosed HIV Infection Among American Indians/Alaska Natives Aged ≥ 13 years by Last Known Jurisdiction of Residence, United States, 2010–2015



SUMMARY OF RESULTS

- The annual rate of diagnoses of HIV infection among AI/ANs increased by 13.3% (Table 1).
- The number of diagnoses attributable to male-to-male sexual contact increased by 42.5% (Figure 1).
- The 2016 male to female diagnosis rate ratio was 4.6 to 1 (Table 1).
- The number of diagnoses attributable to male-to-male sexual contact accounted for about 3 of every 5 diagnoses made among AI/ANs overall, and nearly 4 of every 5 diagnoses among male AI/ANs made in 2016.
- In 2016, AI/ANs were 2.8 times as likely to have their HIV infection diagnosed in the West as compared to the Midwest (Table 1).
- During 2010–2015, overall prevalence rates increased (EAPC 3.1 [95% CI 2.2, 3.9]) (Table 2).

LIMITATIONS

- Many persons of AI/AN ancestry are often misclassified by race/ethnicity in surveillance data as other than AI/AN, suggesting that numbers and rates of HIV diagnoses reported herein represent minimum values.
- Some data on transmission category was missing and was statistically adjusted via multiple imputation.
- Measurements of burden at last data point should be interpreted with caution because additional diagnoses of HIV infection may be reported to CDC.

CONCLUSIONS

- Increasing trends among AI/ANs suggest growing vulnerability to HIV.
- Prevention efforts should be strengthened for all AI/ANs—particularly for men who have sex with men, those aged 13–34 years, and those who reside in urban areas or in the West.
- The increasing trends in the South and among those who inject drugs represent emerging threats.

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