

Supplementary Online Content

Marcus JL, Leyden WA, Alexeeff SE, et al. Comparison of overall and comorbidity-free life expectancy between insured adults with and without HIV infection, 2000-2016. *JAMA Netw Open*. 2020;3(6):e207954. doi:10.1001/jamanetworkopen.2020.7954

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This supplementary material has been provided by the authors to give readers additional information about their work.

eTable 1. Definitions of Major Chronic Comorbidities and Substance Use Variables		
	Definition	ICD-9 and ICD-10 codes
Comorbidity		
Chronic liver disease	Inpatient or outpatient diagnosis	ICD-9: 70.2x, 70.3x, 70.4x, 70.5x, 70.6x, 70.7x, 70.9x, 570.xx, 571.xx, 572.xx, 573.xx ICD-10: B17.1x, B18.xx, B19.2x, K70.xx, K71.xx, K72.xx, K73.xx, K74.xx, K75.xx, K76.xx, K91.83, P78.81
Chronic kidney disease	At least two measures of estimated glomerular filtration rate <60 mL/min at least 90 days apart	N/A
Chronic lung disease	Inpatient or outpatient diagnosis	ICD-9: 490.xx, 491.xx, 492.xx, 493.xx, 494.xx, 495.xx, 496.xx, 516.xx, 517.xx, 518.xx ICD-10: B25.0, J41.xx, J42.xx, J44.xx, J45.xx, J47.xx, J67.xx, J68.xx, J70.xx, J84.xx, J95.822, J96.xx, J98.xx, J99.xx, M30.1x, M32.13, M33.xx, M34.81, M35.02, Q33.4
Diabetes	≥2 inpatient or outpatient diagnoses or ≥1 prescriptions indicative of diabetes mellitus, excluding possible gestational diabetes and women receiving metformin/thiazolidinedione without other indications of diabetes mellitus	ICD-9: 250.xx, 648.xx, 790.xx ICD-10: E08, E09, E10, E11, E13, O24.0x, O24.1x, O24.3x, O24.8x
Cancer	Any invasive cancer recorded in the KPNC, KPSC, and KPMAS cancer registries	N/A
Cardiovascular disease	Inpatient or outpatient diagnosis	ICD-9: 410.xx, 411.xx, 413.xx, 414.xx, 433.xx, 434.xx, 436.xx ICD-10: G43.xx, G46.xx, G95.xx, I20.xx, I21.xx, I22.xx, I23.xx, I24.xx, I25.xx, I63.xx, I97.xx
Substance use		
Alcohol use disorders	Inpatient or outpatient diagnosis	ICD-9: 291.xx, 303.xx, 305.0x ICD-10: F10.xx
Drug use disorders	Inpatient or outpatient diagnosis	ICD-9: 292.xx, 304.xx, 305.2x, 305.3x, 305.4x, 305.5x, 305.6x, 305.7x, 305.8x, 305.9x ICD-10: F11.xx, F12.xx, F13.xx, F14.xx, F15.xx, F16.xx, F18.xx, F19.xx
Smoking/tobacco use	Record of current smoker or former smoker in social history file	N/A
ICD, International Classification of Diseases; KPNC, Kaiser Permanente Northern California; KPSC, Kaiser Permanente Southern California; KPMAS, Kaiser Permanente Mid-Atlantic States.		

eTable 2. Overall and Comorbidity-Free Life Expectancy at Age 21 Years for Individuals With and Without HIV Infection, and for Individuals With HIV Infection Who Initiated ART With CD4 \geq 350 cells/ μ L, Kaiser Permanente, 2011-2016

	Life expectancy at age 21 years (95% CI)				
	HIV+	HIV+ with CD4 \geq 350 cells/ μ L at ART initiation	HIV-	Difference: HIV+ vs. HIV-	Difference: HIV+ with CD4 \geq 350 cells/ μ L at ART initiation vs. HIV-
Overall	54.9 (54.0 to 55.9)	57.4 (56.2 to 58.6)	64.2 (64.0 to 64.4)	9.2 (8.3 to 10.2)	6.8 (5.6 to 8.0)
Comorbidity-free	13.7 (13.0 to 14.4)	19.8 (18.5 to 21.2)	29.0 (28.6 to 29.3)	15.3 (14.5 to 16.1)	9.2 (7.8 to 10.6)
Chronic liver disease	33.1 (31.9 to 34.2)	43.7 (41.6 to 45.8)	57.6 (57.3 to 57.9)	24.5 (23.3 to 25.7)	13.9 (11.8 to 16.0)
Chronic kidney disease	40.2 (39.5 to 41.0)	43.1 (42.0 to 44.3)	56.3 (56.0 to 56.5)	16.1 (15.3 to 16.9)	13.1 (11.9 to 14.3)
Chronic lung disease	23.4 (22.3 to 24.6)	30.8 (28.6 to 32.9)	38.5 (38.0 to 38.9)	15.0 (13.7 to 16.3)	7.7 (5.5 to 9.9)
Diabetes	44.2 (43.2 to 45.3)	52.6 (50.9 to 54.4)	51.7 (51.3 to 52.0)	7.4 (6.4 to 8.5)	-1.0 (-2.8 to 0.8)
Cancer	48.1 (47.0 to 49.1)	53.4 (51.7 to 55.1)	58.0 (57.7 to 58.2)	9.9 (8.8 to 11.0)	4.6 (2.9 to 6.3)
Cardiovascular disease	51.8 (50.9 to 52.7)	56.7 (55.2 to 58.2)	60.8 (60.5 to 61.0)	9.0 (8.0 to 9.9)	4.0 (2.5 to 5.6)

ART, antiretroviral therapy. Comorbidity-free years were those lived before incident diagnosis of any of the six common comorbidities.

eTable 3. Overall and Comorbidity-Free Life Expectancy at Age 21 Years for Women and Men With and Without HIV Infection, Kaiser Permanente, 2011-2016						
	Life expectancy at age 21 years (95% CI)					
	HIV+ women	HIV+ men	HIV- women	HIV- men	Difference: HIV+ vs. HIV- women	Difference: HIV+ vs. HIV- men
Overall	55.0 (53.0 to 57.0)	54.9 (53.9 to 55.8)	67.1 (66.4 to 67.9)	63.8 (63.6 to 64.1)	12.1 (10.0 to 14.3)	9.0 (8.0 to 10.0)
Comorbidity-free	13.4 (11.3 to 15.5)	13.7 (13.0 to 14.4)	26.1 (25.0 to 27.3)	29.3 (29.0 to 29.7)	12.7 (10.4 to 15.1)	15.6 (14.8 to 16.5)
Chronic liver disease	37.0 (33.4 to 40.7)	32.4 (31.2 to 33.6)	62.2 (61.3 to 63.1)	57.0 (56.7 to 57.4)	25.2 (21.4 to 29.0)	24.6 (23.4 to 25.9)
Chronic kidney disease	40.7 (38.7 to 42.6)	39.9 (39.1 to 40.7)	56.9 (56.2 to 57.5)	56.2 (56.0 to 56.5)	16.2 (14.2 to 18.2)	16.4 (15.5 to 17.2)
Chronic lung disease	21.3 (18.0 to 24.6)	23.8 (22.6 to 25.1)	33.0 (31.5 to 34.4)	39.2 (38.7 to 39.6)	11.7 (8.1 to 15.3)	15.3 (14.0 to 16.7)
Diabetes	41.6 (38.5 to 44.8)	44.6 (43.5 to 45.6)	53.2 (52.1 to 54.3)	51.5 (51.2 to 51.9)	11.5 (8.2 to 14.9)	7.0 (5.9 to 8.1)
Cancer	52.4 (50.1 to 54.8)	48.0 (46.9 to 49.2)	60.2 (59.3 to 61.0)	57.7 (57.5 to 58.0)	7.7 (5.2 to 10.2)	9.7 (8.5 to 10.9)
Cardiovascular disease	53.2 (50.8 to 55.7)	51.7 (50.7 to 52.7)	64.6 (63.9 to 65.4)	60.3 (60.0 to 60.6)	11.4 (8.8 to 13.9)	8.6 (7.6 to 9.6)

ART, antiretroviral therapy. Comorbidity-free years were those lived before incident diagnosis of any of the six common comorbidities.