

Trends in all-cause mortality after cancer diagnosis among people with and without HIV in Botswana, 1990-2021

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Supplementary Table 2: Sensitivity Analysis of HIV Prevalence Assumptions on SMR Estimates

	Pre-ART	Post-ART			
Cancer Type	1990-2001	2002-2007	2008-2012	2013-2015	2016-2021
All Cancers (Original)	47.14(42.52-52.13)	23.02(21.79-24.31)	15.74(14.85-16.67)	9.86(9.14-10.62)	16.72(15.70-17.78)
All Cancers (-5%)	50.66(45.69-56.01)	24.67(23.34-26.05)	16.84(15.89-17.83)	10.59(9.82-11.41)	17.95(16.86-19.09)
All Cancers (+5%)	43.95(39.64-48.60)	21.53(20.37-22.74)	14.75(13.92-15.62)	9.19(8.52-9.90)	15.59(14.65-16.59)
All Cancers (-10%)	34.55(49.21-60.33)	26.49(25.07-27.97)	18.05(17.04-19.12)	11.40(10.57-12.28)	19.31(18.14-20.54)
All Cancers (+10%)	41.04(37.02-45.38)	20.17(19.09-21.30)	13.84(13.06-14.66)	8.58(7.95-9.24)	14.57(13.68-15.49)
ADC(Original)	58.62(51.66-66.37)	74.85(69.88-80.08)	53.46(49.31-57.86)	53.46(49.31-57.86)	58.50(53.15-64.25)
ADC (-5%)	62.58(55.05-70.86)	80.13(74.81-85.73)	57.24(52.80-61.95)	21.28(18.97-23.00)	62.86(57.11-69.03)
ADC (+5%)	55.03(48.41-62.31)	70.05(65.40-74.95)	50.03(46.15-54.14)	18.53(16.52-20.72)	54.55(49.56-59.90)
ADC (-10%)	66.98(58.92-75.84)	85.99(80.28-92.00)	61.43(56.67-66.49)	22.88(20.40-25.59)	67.67(61.48-74.31)
ADC (+10%)	51.76(45.53-58.60)	65.67(61.31-70.26)	46.89(43.26-50.75)	17.33(15.45-19.38)	50.92(46.27-55.92)
NADC (Original)	11.51(9.62-13.66)	10.04(9.14-11.01)	9.38(8.62-10.19)	6.61(5.96-7.30)	10.80(9.93-11.72)
NADC (-5%)	12.40(10.36-14.71)	10.76(9.79-11.80)	10.04(9.22-10.90)	7.10(6.41-7.84)	11.59(10.66-12.59)
NADC (+5%)	10.71(8.95-12.70)	9.39(8.54-10.30)	8.79(8.07-9.55)	6.16(5.56-6.81)	10.07(9.27-10.94)
NADC (-10%)	13.38(11.19-15.88)	11.56(10.52-12.68)	10.76(9.89-11.69)	22.88(20.40-25.59)	67.67(61.48-71.31)
NADC (+10%)	9.97(8.34-11.83)	8.80(8.00-9.65)	8.25(7.58-8.96)	5.75(5.19-6.36)	9.41(8.66-10.22)

1.1. -5 % Scenario (SMR)										
With HIV vs Without HIV										
Cancer Type	SMR (95 % CI); -5% Prevalence Scenario									
	Pre-ART		Post-ART							
			1990-2001		2002-2007		2008-2012		2013-2015	
All	50.66	(45.69-56.01)	24.67	(23.34-26.05)	16.84	(15.89-17.83)	10.59	(9.82-11.41)	17.95	(16.86-19.09)
Cervical	48.12	(37.65-60.60)	17.65	(15.00-20.64)	15.52	(13.41-17.86)	25.47	(21.75-29.64)	49.15	(43.75-55.02)
Kaposi Sarcoma	NA	NA	2106.75	(1944.41-2279.02)	2788.43	(2500.69-3100.20)	65.44	(53.62-79.07)	390.58	(310.63-484.82)
NHL	5.07	(1.63-11.83)	47.78	(36.71-61.13)	58.80	(46.48-73.38)	11.28	(7.81-15.77)	86.80	(65.38-112.98)
Breast	NA	NA	7.87	(6.03-10.09)	5.01	(3.89-6.35)	4.29	(3.22-5.60)	14.88	(12.43-17.67)
Head & Neck	73.06	(38.86-124.94)	8.12	(5.90-10.90)	10.20	(7.92-12.94)	5.57	(4.05-7.48)	10.17	(7.57-13.37)
Skin & Melanoma	12.29	(6.87-20.26)	16.08	(11.20-22.37)	11.71	(8.80-15.28)	12.54	(8.73-17.43)	36.23	(28.29-45.70)
Esophagus	3.54	(1.14-8.25)	12.82	(8.59-18.42)	10.14	(7.64-13.20)	8.63	(6.10-11.84)	21.12	(15.40-28.26)
Prostate	2.45	(0.66-6.27)	3.86	(1.04-9.89)	2.70	(1.16-5.32)	3.91	(1.79-7.43)	4.67	(2.96-7.01)
Conjunctiva	NA	NA	118.65	(85.86-159.83)	163.07	(116.48-222.06)	NA	NA	NA	NA
Lung	NA	NA	9.79	(5.89-15.28)	7.90	(5.20-11.49)	5.90	(3.30-9.73)	10.73	(6.13-17.43)
Hepatocellular & Liver	4.05	(1.30-9.44)	22.44	(15.72-31.07)	26.66	(18.86-36.59)	14.63	(9.06-22.37)	7.58	(3.91-13.24)
ADCs	62.58	(55.05-70.86)	80.13	(74.81-85.73)	57.24	(52.80-61.95)	21.28	(18.97-23.80)	62.86	(57.11-69.03)
NADCs	12.40	(10.36-14.71)	10.76	(9.79-11.80)	10.04	(9.22-10.90)	7.10	(6.41-7.84)	11.59	(10.66-12.59)

1.2. +5% SCENARIO (SMR)										
With HIV vs Without HIV										
Cancer Type	SMR (95 % CI) ; +5% Prevalence Scenario									
	Pre-ART		Post-ART							
			1990-2001		2002-2007		2008-2012		2013-2015	
All	43.95	(39.64-48.60)	21.53	(20.37-22.74)	14.75	(13.92-15.62)	9.19	(8.52-9.90)	15.59	(14.65-16.59)
Cervical	42.44	(33.20-53.45)	15.43	(13.11-18.04)	13.57	(11.73-15.62)	22.26	(19.01-25.91)	42.53	(37.86-47.62)
Kaposi Sarcoma	NA	NA	1871.75	(1727.52-2024.81)	2490.30	(2233.32-2768.73)	55.22	(45.25-66.73)	349.48	(277.94-433.80)
NHL	4.42	(1.42-10.31)	41.73	(32.07-53.40)	52.08	(41.16-64.99)	9.67	(6.70-13.51)	76.56	(57.67-99.65)
Breast	2.90	(1.94-4.17)	6.83	(5.24-8.76)	4.35	(3.37-5.51)	3.70	(2.78-4.83)	12.81	(10.70-15.21)
Head & Neck	65.48	(34.83-111.98)	7.10	(5.16-9.53)	8.94	(6.94-11.33)	4.87	(3.54-6.54)	8.91	(6.63-11.71)
Skin & Melanoma	10.72	(6.00-17.68)	14.16	(9.86-19.69)	10.28	(7.72-13.41)	10.89	(7.59-15.15)	32.18	(25.13-40.59)
Oesophagus	3.01	(0.97-7.03)	11.33	(7.59-16.28)	8.98	(6.76-11.69)	7.59	(5.37-10.42)	18.53	(13.52-24.80)
Prostate	2.14	(0.58-5.49)	3.45	(0.93-8.82)	2.39	(1.03-4.71)	3.48	(1.59-6.61)	4.17	(2.64-6.25)
Conjunctiva	NA	NA	103.26	(74.72-139.09)	145.63	(104.03-198.32)	NA	NA	NA	NA
Lung	NA	NA	8.62	(5.19-13.46)	6.95	(4.58-10.12)	5.10	(2.85-8.41)	9.25	(5.28-15.02)
Hepatocellular & Liver	3.42	(1.10-7.99)	19.88	(13.93-27.53)	23.58	(16.69-32.37)	12.96	(8.02-19.82)	6.41	(3.31-11.20)
ADCs	55.03	(48.41-62.31)	70.05	(65.40-74.95)	50.03	(46.15-54.14)	18.53	(16.52-20.72)	54.55	(49.56-59.90)
NADCs	10.71	(8.95-12.70)	9.39	(8.54-10.30)	8.79	(8.07-9.55)	6.16	(5.56-6.81)	10.07	(9.27-10.94)

1.3. -10% Scenario (SMR)									
With HIV vs Without HIV									
Cancer Type	SMR (95 % CI) ; -10% Prevalence Scenario								
	Pre-ART		Post-ART						
	1990-2001		2002-2007		2008-2012		2013-2015		2016-2021
All	54.55	(49.21-60.33)	26.49	(25.07-27.97)	18.05	(17.04-19.12)	11.40	(10.57-12.28)	19.31 (18.14-20.54)
Cervical	51.43	(40.24-64.77)	18.95	(16.20-22.15)	16.64	(14.38-19.16)	27.32	(23.34-31.80)	52.97 (47.16-59.31)
Kaposi Sarcoma	NA	NA	2243.78	(2070.88-2427.26)	1962.35	(2656.66-32.93.56)	71.37	(58.49-86.24)	414.56 (329.70-514.58)
NHL	5.45	(1.76-12.71)	51.30	(39.42-65.64)	62.72	(49.57-78.27)	12.22	(8.46-17.08)	92.77 (69.88-120.75)
Breast	NA	NA	8.47	(6.50-10.86)	5.40	(4.29-6.84)	4.63	(3.48-6.04)	16.08 (13.44-19.10)
Head & Neck	77.48	(41.21-132.50)	8.71	(6.33-11.70)	10.94	(8.50-13.87)	5.98	(4.35-8.03)	10.90 (8.12-14.34)
Skin & Melanoma	13.20	(7.38-21.77)	17.21	(11.98-23.93)	12.54	(9.42-16.36)	13.49	(9.39-18.76)	38.59 (30.13-48.67)
Esophagus	3.84	(1.24-8.96)	13.69	(9.17-19.66)	10.82	(8.15-14.09)	9.23	(6.53-12.67)	22.61 (16.49-30.26)
Prostate	2.63	(0.71-6.72)	4.11	(1.10-10.52)	2.88	(1.24-5.67)	4.17	(1.90-7.91)	4.97 (3.15-7.45)
Conjunctiva	NA	NA	127.63	(92.36-171.93)	173.24	(123.75-235.91)	NA	NA	NA NA
Lung	NA	NA	10.47	(6.30-16.35)	8.45	(5.57-12.29)	6.36	(3.56-10.49)	11.59 (6.62-18.83)
Hepatocellular & Liver	4.41	(1.42-10.29)	23.93	(16.76-33.14)	28.45	(20.13-39.05)	15.61	(9.66-23.86)	8.25 (4.26-14.42)
ADCs	66.98	(58.92-75.84)	85.99	(80.28-92.00)	61.43	(56.67-66.49)	22.88	(20.40-25.59)	67.67 (61.48-74.31)
NADCs	13.38	(11.19-15.88)	11.56	(10.52-12.68)	10.76	(9.89-11.69)	7.64	(6.90-8.44)	12.47 (11.47-13.54)

1.4. +10% Scenario SMR										
With HIV vs Without HIV										
Cancer Type	SMR (95 % CI); +10% Prevalence Scenario									
	Pre-ART		Post-ART							
			1990-2001		2002-2007		2008-2012		2013-2015	
All	41.04	(37.02-45.38)	20.17	(19.09-21.30)	13.84	(13.06-14.66)	8.58	(7.95-9.24)	14.57	(13.68-15.49)
Cervical	39.98	(31.28-50.35)	14.46	(12.28-16.90)	12.73	(11.00-14.65)	20.87	(17.82-24.28)	39.65	(35.30-44.39)
Kaposi Sarcoma	NA	NA	1770.23	1633.82-1914.98)	2361.56	(2117.87-2625.60)	50.79	(41.63-61.38)	331.73	(263.82-411.77)
NHL	4.14	(1.33-9.65)	39.12	(30.06-50.05)	49.17	(38.87-61.37)	8.97	(6.21-12.53)	72.13	(54.34-93.89)
Breast	NA	NA	6.38	(4.89-8.18)	4.06	(3.15-5.14)	3.44	(2.59-4.49)	11.90	(9.94-14.13)
Head & Neck	62.21	(33.09-106.39)	6.65	(4.83-8.93)	8.39	(6.52-10.64)	4.56	(3.31-6.12)	8.36	(6.22-10.99)
Skin & Melanoma	10.04	(5.62-16.57)	13.32	(9.28-18.53)	9.66	(7.25-12.60)	10.17	(7.09-14.15)	30.43	(23.77-38.38)
Esophagus	2.79	(0.90-6.50)	10.69	(7.16-15.35)	8.47	(6.38-11.03)	7.14	(5.05-9.80)	17.41	(12.69-23.29)
Prostate	2.01	(0.54-5.15)	3.26	(0.88-8.36)	2.26	(0.97-4.45)	3.29	(1.50-6.25)	3.95	(2.50-5.93)
Conjunctiva	NA	NA	96.61	(69.91-130.14)	138.10	(98.65-188.06)	NA	NA	NA	NA
Lung	NA	NA	8.11	(4.88-12.67)	6.54	(4.31-9.52)	4.75	(2.66-7.84)	8.61	(4.92-13.98)
Hepatocellular & Liver	3.15	(1.02-7.36)	18.78	(13.15-26.00)	22.26	(15.75-30.55)	12.24	(7.58-18.72)	5.91	(3.05-10.32)
ADCs	51.76	(45.53-58.60)	65.67	(61.31-70.26)	46.89	(43.26-50.75)	17.33	(15.45-19.38)	50.92	(46.27-55.92)
NADCs	9.97	(8.34-11.83)	8.80	(8.00-9.65)	8.25	(7.58-8.96)	5.75	(5.19-6.36)	9.41	(8.66-10.22)