

Supplementary appendix

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The data presented in the Figures 1-4 was included in the appendix.

The Appendix 1.1-1.6 showed all data in Figure 1, including the age-standardized mortality rates (ASMRs), total number of deaths resulting from tuberculosis (TB), and relative proportion of tuberculosis to all death causes across Brazil, Russia, India, China, and South Africa between 1990 and 2019 in HIV-negative populations and HIV-positive populations.

The Appendix 2.1-2.6 showed all data in Figure 2, including local drift with net drift values for tuberculosis (TB) mortality and sex difference in Brazil, Russia, India, China, and South Africa from 1990 and 2019 in HIV-negative populations and HIV-positive populations.

The Appendix 3.1-3.7 showed all data in Figure 3, including parameter estimates of age, period, and cohort effects on HIV-negative tuberculosis (TB) mortality rate and sex difference in Brazil, Russia, India, China, and South Africa from 1990 to 2019.

The Appendix 4.1-4.7 showed all data in Figure 4, including parameter estimates of age, period, and cohort effects on HIV-negative tuberculosis (TB) mortality rate and sex difference in Brazil, Russia, India, China, and South Africa from 1990 to 2019.

The Appendix 5 listed all authors in the study group.

Appendix 1.1 Age-standardized mortality rates across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-negative populations

Year	China	Russia	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	20.2	5.9	121.7	9.1	68.7	55.9	6.9
1991	19.0	6.1	123.5	8.5	67.0	56.1	6.3
1992	17.9	7.0	124.6	8.2	68.1	56.2	5.8
1993	16.5	9.6	116.0	8.0	62.4	52.6	5.4
1994	15.3	12.0	108.4	7.7	63.7	49.6	5.1
1995	14.2	11.9	103.2	7.4	63.0	47.3	4.8
1996	12.9	11.2	100.0	7.1	65.0	45.7	4.5
1997	11.8	10.5	100.8	6.8	73.1	45.7	4.3
1998	11.0	10.5	98.6	6.5	80.3	44.9	4.1
1999	10.5	12.1	95.2	6.3	79.6	43.6	4.0
2000	10.2	13.3	91.8	5.9	84.3	42.5	3.7
2001	9.5	13.8	87.0	5.6	83.6	40.6	3.4
2002	9.0	14.4	81.9	5.3	87.6	38.6	3.2
2003	8.2	14.9	76.5	5.0	92.4	36.5	2.9
2004	7.6	14.4	69.3	4.7	94.2	33.5	2.7
2005	6.8	15.3	66.8	4.4	95.2	32.4	2.6
2006	5.9	13.3	63.7	4.1	96.1	30.8	2.4
2007	5.1	11.8	61.5	3.9	90.4	29.5	2.2
2008	4.6	11.1	59.6	3.7	85.2	28.6	2.1
2009	4.1	9.8	55.0	3.6	80.2	26.5	1.9
2010	3.8	9.4	51.0	3.4	75.0	24.7	1.8
2011	3.5	8.3	48.5	3.2	67.6	23.4	1.8
2012	3.2	7.5	47.8	3.0	61.7	23.0	1.7
2013	3.0	6.7	47.7	2.9	57.0	22.8	1.6
2014	2.7	6.3	46.4	2.8	54.2	22.2	1.5
2015	2.6	5.5	43.1	2.7	51.5	20.7	1.4
2016	2.5	4.9	41.1	2.7	48.0	19.8	1.3
2017	2.3	4.3	39.9	2.5	45.4	19.2	1.3
2018	2.1	4.2	38.2	2.4	42.1	18.4	1.3
2019	2.0	4.1	36.1	2.3	40.1	17.4	1.3

Appendix 1.2 Total number of deaths resulting from tuberculosis across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-negative populations

Year	China	Russia	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	177.5	10.4	614.0	10.0	19.5	831.3	13.1
1991	169.9	10.6	637.3	9.6	19.3	846.7	12.5
1992	163.2	12.2	657.5	9.3	20.1	862.4	11.8
1993	152.9	16.8	625.7	9.4	18.6	823.4	11.3
1994	145.3	21.1	601.1	9.2	19.2	795.9	11.0
1995	137.6	20.9	587.4	9.1	19.1	774.1	10.8
1996	127.5	19.6	584.5	8.9	19.7	760.3	10.5
1997	119.1	18.5	603.9	8.8	22.6	772.9	10.3
1998	114.3	18.5	605.2	8.7	25.6	772.3	10.3
1999	111.8	21.5	602.7	8.6	26.2	770.8	10.2
2000	111.0	23.9	595.7	8.3	28.9	767.7	10.0
2001	106.3	24.9	577.2	8.1	29.5	746.1	9.5
2002	102.3	26.3	556.5	7.9	32.0	725.0	9.0
2003	96.3	27.2	534.0	7.6	34.9	700.0	8.7
2004	91.1	26.6	501.8	7.4	36.5	663.4	8.4
2005	83.9	28.2	498.9	7.0	37.5	655.5	8.3
2006	74.4	24.6	491.8	6.8	38.4	636.0	8.1
2007	66.5	21.9	490.8	6.7	36.5	622.4	7.8
2008	61.3	20.8	492.3	6.6	34.8	615.8	7.5
2009	57.0	18.4	474.5	6.5	33.0	589.4	7.2
2010	53.3	17.7	459.9	6.3	31.0	568.3	7.1
2011	50.5	15.6	453.4	6.2	28.1	553.8	7.1
2012	48.3	14.2	461.6	6.0	26.0	556.1	7.0
2013	46.1	12.8	466.7	6.0	24.3	555.9	6.8
2014	43.4	12.0	462.6	5.9	23.5	547.4	6.6
2015	42.0	10.6	445.8	5.8	22.7	526.9	6.5
2016	42.1	9.5	440.2	5.8	21.5	519.2	6.6
2017	39.6	8.4	440.9	5.7	20.9	515.4	6.7
2018	37.6	8.1	434.2	5.6	20.1	505.6	6.9
2019	36.6	8.0	422.6	5.5	19.8	492.5	7.1

Appendix 1.3 Relative proportion of tuberculosis to all death causes across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-negative populations

Year	China	Russia Federation	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	13.1	17.1	13.4	3.9	16.7	13.1	13.9
1991	12.9	17.6	13.9	3.8	16.5	13.4	13.0
1992	12.9	19.6	14.4	3.9	16.5	13.8	12.1
1993	12.8	22.6	14.2	4.0	15.1	13.6	11.4
1994	12.8	25.1	14.1	4.0	14.5	13.6	11.0
1995	12.9	25.4	14.1	4.0	13.3	13.6	10.7
1996	12.8	25.4	14.3	4.1	12.1	13.7	10.5
1997	12.9	25.3	14.8	4.2	11.8	14.1	10.2
1998	13.3	25.8	14.9	4.3	11.4	14.3	10.0
1999	14.0	26.3	15.1	4.4	10.3	14.5	9.7
2000	14.9	26.9	15.1	4.3	9.8	14.6	9.5
2001	15.5	27.2	14.9	4.3	9.0	14.4	9.1
2002	16.2	27.4	14.7	4.2	8.7	14.3	8.6
2003	16.6	27.2	14.5	4.1	8.7	14.2	8.1
2004	16.7	27.0	14.0	4.1	8.5	13.7	7.6
2005	16.4	27.2	14.1	3.9	8.4	13.7	7.2
2006	15.8	26.0	14.1	3.9	8.5	13.6	6.9
2007	15.1	24.4	14.3	3.8	8.3	13.6	6.5
2008	14.4	23.2	14.6	3.7	8.3	13.7	6.1
2009	13.9	21.5	14.7	3.7	8.4	13.7	5.8
2010	13.5	20.7	14.7	3.6	8.5	13.7	5.6
2011	13.2	18.9	14.8	3.5	8.4	13.7	5.4
2012	12.9	17.4	15.6	3.5	8.5	14.3	5.2
2013	12.6	16.0	16.2	3.4	8.6	14.7	5.0
2014	12.2	14.8	16.8	3.4	8.6	15.0	4.8
2015	11.6	13.5	16.8	3.3	8.4	14.9	4.7
2016	11.3	12.3	17.6	3.3	8.0	15.2	4.6
2017	10.9	12.0	18.1	3.3	7.9	15.6	4.7
2018	10.7	11.8	18.0	3.2	8.2	15.6	4.5
2019	10.4	11.8	18.0	3.2	8.4	15.5	4.5

Appendix 1.4 Age-standardized mortality rates across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-positive populations

Year	China	Russia	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	0.10	0.26	0.03	1.76	3.52	0.24	0.03
1991	0.12	0.28	0.06	1.93	6.10	0.32	0.03
1992	0.14	0.34	0.14	2.07	10.39	0.44	0.03
1993	0.16	0.51	0.28	2.27	16.97	0.62	0.03
1994	0.18	0.69	0.48	2.39	26.47	0.88	0.04
1995	0.19	0.71	0.76	2.46	38.64	1.20	0.04
1996	0.20	0.71	1.13	2.38	53.07	1.58	0.05
1997	0.20	0.68	1.59	2.11	73.65	2.08	0.04
1998	0.21	0.65	2.11	1.98	96.91	2.67	0.04
1999	0.22	0.86	2.66	1.90	118.18	3.26	0.04
2000	0.23	0.97	3.11	1.81	142.10	3.86	0.04
2001	0.24	1.02	3.39	1.74	162.15	4.33	0.04
2002	0.24	1.11	3.51	1.63	186.11	4.80	0.05
2003	0.23	1.19	3.55	1.57	209.65	5.23	0.05
2004	0.23	1.19	3.51	1.47	226.15	5.50	0.05
2005	0.23	1.32	3.44	1.36	234.87	5.63	0.05
2006	0.20	1.18	3.33	1.28	235.49	5.57	0.05
2007	0.18	1.09	3.17	1.22	223.63	5.29	0.05
2008	0.17	1.06	3.00	1.19	205.59	4.92	0.05
2009	0.16	0.97	2.72	1.15	184.34	4.44	0.05
2010	0.15	0.96	2.39	1.10	164.97	3.97	0.05
2011	0.14	0.90	2.12	1.04	143.29	3.49	0.05
2012	0.13	0.83	1.95	0.99	122.84	3.07	0.05
2013	0.13	0.76	1.77	0.97	107.11	2.73	0.05
2014	0.14	0.74	1.54	0.94	97.57	2.47	0.05
2015	0.14	0.69	1.28	0.91	92.34	2.28	0.04
2016	0.15	0.65	1.10	0.90	89.49	2.16	0.05
2017	0.14	0.54	0.96	0.86	84.60	2.00	0.05
2018	0.13	0.51	0.88	0.81	75.55	1.81	0.05
2019	0.13	0.48	0.85	0.78	69.99	1.70	0.05

Appendix 1.5 Total number of deaths resulting from tuberculosis across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-positive populations

Year	China	Russia	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	1.13	0.41	0.25	2.51	1.28	5.59	0.06
1991	1.39	0.44	0.56	2.81	2.25	7.45	0.06
1992	1.66	0.54	1.24	3.08	3.88	10.42	0.07
1993	1.92	0.83	2.44	3.45	6.45	15.09	0.07
1994	2.15	1.13	4.29	3.71	10.23	21.50	0.07
1995	2.37	1.19	6.93	3.89	15.18	29.57	0.09
1996	2.49	1.18	10.48	3.83	21.21	39.19	0.10
1997	2.62	1.13	14.98	3.47	29.91	52.11	0.10
1998	2.79	1.08	20.29	3.30	39.95	67.41	0.09
1999	2.97	1.41	25.95	3.22	49.41	82.96	0.09
2000	3.18	1.60	30.96	3.13	60.26	99.13	0.09
2001	3.35	1.66	34.28	3.05	69.73	112.07	0.10
2002	3.41	1.80	36.06	2.93	81.16	125.36	0.10
2003	3.32	1.91	37.10	2.87	92.65	137.85	0.11
2004	3.38	1.89	37.41	2.73	101.26	146.67	0.10
2005	3.39	2.07	37.34	2.58	106.59	151.98	0.11
2006	3.01	1.82	36.85	2.46	108.32	152.45	0.12
2007	2.72	1.67	35.75	2.41	104.35	146.90	0.13
2008	2.64	1.62	34.51	2.39	97.47	138.64	0.12
2009	2.47	1.50	32.00	2.36	88.88	127.21	0.12
2010	2.35	1.49	28.71	2.30	80.98	115.83	0.13
2011	2.28	1.40	26.04	2.22	71.61	103.56	0.13
2012	2.14	1.30	24.35	2.15	62.51	92.45	0.13
2013	2.15	1.22	22.59	2.14	55.51	83.61	0.13
2014	2.29	1.18	19.98	2.10	51.48	77.03	0.12
2015	2.45	1.13	16.83	2.08	49.57	72.05	0.11
2016	2.60	1.07	14.82	2.09	48.84	69.41	0.12
2017	2.50	0.89	13.16	2.02	46.90	65.47	0.12
2018	2.38	0.83	12.31	1.95	42.51	59.99	0.12
2019	2.30	0.79	12.03	1.90	40.04	57.07	0.12

Appendix 1.6 Relative proportion of tuberculosis to all death causes across BRICS and High-income Asia Pacific countries from 1990 and 2019 in HIV-positive populations

Year	China	Russia Federation	India	Brazil	South Africa	BRICS	High-income Asia Pacific
1990	0.08	0.67	0.01	0.97	1.10	0.09	0.06
1991	0.11	0.73	0.01	1.13	1.92	0.12	0.06
1992	0.13	0.87	0.03	1.28	3.18	0.17	0.07
1993	0.16	1.12	0.06	1.46	5.25	0.25	0.07
1994	0.19	1.35	0.10	1.60	7.73	0.37	0.07
1995	0.22	1.44	0.17	1.73	10.53	0.52	0.09
1996	0.25	1.53	0.26	1.76	13.03	0.71	0.10
1997	0.28	1.55	0.37	1.67	15.61	0.95	0.09
1998	0.32	1.50	0.50	1.64	17.85	1.24	0.09
1999	0.37	1.72	0.65	1.64	19.36	1.56	0.09
2000	0.43	1.80	0.79	1.63	20.47	1.88	0.09
2001	0.49	1.81	0.89	1.62	21.17	2.17	0.09
2002	0.54	1.88	0.95	1.58	22.15	2.48	0.10
2003	0.57	1.91	1.01	1.56	23.09	2.79	0.10
2004	0.62	1.92	1.05	1.50	23.63	3.03	0.10
2005	0.66	2.00	1.05	1.44	23.94	3.18	0.10
2006	0.64	1.92	1.05	1.39	24.05	3.25	0.10
2007	0.62	1.85	1.04	1.37	23.80	3.21	0.11
2008	0.62	1.81	1.02	1.36	23.28	3.09	0.10
2009	0.60	1.75	0.99	1.34	22.73	2.97	0.10
2010	0.60	1.75	0.92	1.30	22.27	2.79	0.10
2011	0.59	1.70	0.85	1.26	21.45	2.56	0.10
2012	0.57	1.59	0.82	1.24	20.51	2.38	0.10
2013	0.59	1.52	0.78	1.23	19.60	2.21	0.09
2014	0.64	1.47	0.72	1.21	18.83	2.11	0.09
2015	0.67	1.43	0.63	1.19	18.41	2.03	0.08
2016	0.70	1.37	0.59	1.19	18.07	2.04	0.08
2017	0.69	1.27	0.54	1.16	17.65	1.98	0.08
2018	0.68	1.21	0.51	1.13	17.24	1.85	0.08
2019	0.66	1.17	0.51	1.11	16.94	1.80	0.07

Appendix 2.1 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-negative populations

Age group	China	Russia	India	Brazil	South Africa
15-19	-7.65(-9.41, -5.86)	-4.09(-8.49, 0.52)	-5.88(-6.52, -5.24)	-3.38(-3.97, -2.79)	-2.61(-5.22, 0.07)
20-24	-7.64(-8.58, -6.7)	-2.84(-4.32, -1.34)	-5.05(-5.44, -4.66)	-3.76(-4.1, -3.42)	-2.54(-3.96, -1.1)
25-29	-7.84(-8.47, -7.2)	-1.66(-2.45, -0.88)	-4.46(-4.74, -4.17)	-4.47(-4.72, -4.22)	-2.39(-3.41, -1.36)
30-34	-7.77(-8.3, -7.24)	-0.96(-1.54, -0.38)	-4.01(-4.26, -3.77)	-5.01(-5.21, -4.81)	-1.97(-2.84, -1.1)
35-39	-7.71(-8.16, -7.25)	-0.83(-1.33, -0.33)	-3.69(-3.9, -3.47)	-5.18(-5.35, -5.01)	-1.64(-2.45, -0.83)
40-44	-7.77(-8.14, -7.39)	-1.41(-1.86, -0.96)	-3.43(-3.63, -3.24)	-4.99(-5.14, -4.84)	-1.49(-2.27, -0.71)
45-49	-7.99(-8.32, -7.65)	-2.09(-2.51, -1.67)	-3.64(-3.83, -3.46)	-4.66(-4.8, -4.52)	-1.48(-2.26, -0.7)
50-54	-8.39(-8.7, -8.08)	-2.49(-2.88, -2.09)	-3.84(-4.01, -3.66)	-4.47(-4.61, -4.34)	-1.22(-2, -0.43)
55-59	-8.72(-9.01, -8.44)	-2.81(-3.21, -2.4)	-4.13(-4.3, -3.96)	-4.41(-4.54, -4.27)	-0.48(-1.29, 0.34)
60-64	-8.61(-8.86, -8.36)	-3.15(-3.61, -2.69)	-4.43(-4.59, -4.26)	-4.48(-4.62, -4.34)	-0.2(-1.06, 0.67)
65-69	-8.31(-8.55, -8.06)	-3.62(-4.2, -3.04)	-4.58(-4.75, -4.41)	-4.59(-4.74, -4.43)	-0.27(-1.22, 0.68)
70-74	-7.85(-8.1, -7.59)	-4.17(-5.01, -3.33)	-4.53(-4.73, -4.34)	-4.56(-4.74, -4.38)	-0.99(-2.13, 0.17)
75-79	-7.4(-7.72, -7.09)	-4.96(-6.13, -3.77)	-4.59(-4.86, -4.31)	-4.55(-4.79, -4.31)	-1.1(-2.87, 0.7)
Overall	-8.03(-8.25, -7.81)	-2.44(-2.79, -2.09)	-4.16(-4.27, -4.06)	-4.59(-4.67, -4.5)	-1.34(-1.81, -0.88)

Appendix 2.2 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-negative Male

Age group	China	Russia	India	Brazil	South Africa
15-19	-7.08(-8.45, -5.69)	-5.71(-10.92, -0.19)	-5.14(-6.01, -4.26)	-2.95(-3.75, -2.13)	-1.51(-3.83, 0.87)
20-24	-6.87(-7.58, -6.15)	-3.95(-5.5, -2.38)	-4.33(-4.84, -3.82)	-3.26(-3.71, -2.81)	-1.45(-2.65, -0.23)
25-29	-7.06(-7.53, -6.58)	-2.57(-3.34, -1.8)	-3.82(-4.19, -3.46)	-4.08(-4.4, -3.77)	-1.51(-2.36, -0.66)
30-34	-7.1(-7.49, -6.71)	-1.74(-2.29, -1.19)	-3.49(-3.78, -3.19)	-4.81(-5.05, -4.56)	-1.45(-2.15, -0.75)
35-39	-7.07(-7.4, -6.74)	-1.48(-1.94, -1.01)	-3.24(-3.49, -2.98)	-5.09(-5.29, -4.88)	-1.41(-2.04, -0.77)
40-44	-7.07(-7.33, -6.8)	-1.96(-2.37, -1.55)	-3.04(-3.27, -2.81)	-4.88(-5.06, -4.7)	-1.45(-2.04, -0.86)
45-49	-7.24(-7.48, -7.01)	-2.59(-2.97, -2.21)	-3.31(-3.52, -3.1)	-4.51(-4.67, -4.34)	-1.48(-2.06, -0.9)
50-54	-7.69(-7.9, -7.48)	-2.94(-3.3, -2.59)	-3.62(-3.81, -3.42)	-4.25(-4.41, -4.09)	-1.25(-1.83, -0.67)
55-59	-8.18(-8.38, -7.99)	-3.21(-3.57, -2.84)	-3.96(-4.15, -3.77)	-4.19(-4.35, -4.02)	-0.48(-1.09, 0.13)
60-64	-8.28(-8.45, -8.1)	-3.54(-3.96, -3.12)	-4.28(-4.47, -4.09)	-4.31(-4.48, -4.14)	-0.24(-0.89, 0.42)
65-69	-8.11(-8.27, -7.94)	-4.29(-4.83, -3.74)	-4.39(-4.59, -4.2)	-4.47(-4.66, -4.28)	-0.44(-1.17, 0.29)
70-74	-7.61(-7.79, -7.44)	-5.06(-5.88, -4.23)	-4.28(-4.51, -4.05)	-4.47(-4.69, -4.25)	-1.16(-2.05, -0.26)
75-79	-7.01(-7.24, -6.79)	-5.93(-7.15, -4.7)	-4.26(-4.6, -3.93)	-4.49(-4.78, -4.2)	-1.45(-2.84, -0.04)
Overall	-7.45(-7.6, -7.29)	-3.12(-3.48, -2.75)	-3.8(-3.92, -3.67)	-4.39(-4.5, -4.28)	-1.15(-1.52, -0.79)

Appendix 2.3 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-negative Female

Age group	China	Russia	India	Brazil	South Africa
15-19	-8.38(-11.3, -5.36)	-1.11(-4.64, 2.54)	-6.59(-7.41, -5.76)	-3.98(-4.55, -3.41)	-3.61(-7.05, -0.04)
20-24	-8.6(-10.2, -6.98)	0.17(-1.24, 1.59)	-5.77(-6.29, -5.25)	-4.51(-4.85, -4.16)	-3.89(-5.9, -1.83)
25-29	-8.88(-9.99, -7.75)	1.4(0.53, 2.28)	-5.23(-5.63, -4.82)	-5.14(-5.41, -4.88)	-3.79(-5.28, -2.28)
30-34	-8.78(-9.74, -7.81)	2.2(1.48, 2.92)	-4.74(-5.1, -4.39)	-5.44(-5.67, -5.22)	-3.01(-4.34, -1.65)
35-39	-8.88(-9.73, -8.02)	2.31(1.66, 2.98)	-4.38(-4.71, -4.04)	-5.44(-5.64, -5.24)	-2.1(-3.43, -0.75)
40-44	-9.25(-9.98, -8.51)	1.79(1.16, 2.43)	-4.08(-4.39, -3.76)	-5.28(-5.47, -5.09)	-1.37(-2.71, -0.01)
45-49	-9.62(-10.29, -8.94)	1.26(0.62, 1.9)	-4.16(-4.46, -3.86)	-5.08(-5.27, -4.9)	-1.11(-2.48, 0.29)
50-54	-9.92(-10.55, -9.29)	0.75(0.12, 1.37)	-4.16(-4.45, -3.88)	-5.04(-5.22, -4.86)	-0.85(-2.24, 0.57)
55-59	-9.91(-10.5, -9.32)	0.19(-0.45, 0.83)	-4.4(-4.67, -4.12)	-4.98(-5.16, -4.8)	-0.44(-1.87, 1.02)
60-64	-9.34(-9.86, -8.81)	-0.57(-1.24, 0.11)	-4.57(-4.84, -4.3)	-4.92(-5.1, -4.73)	-0.38(-1.84, 1.1)
65-69	-8.86(-9.36, -8.36)	-1.81(-2.55, -1.07)	-4.69(-4.96, -4.41)	-4.8(-4.99, -4.61)	-0.24(-1.78, 1.33)
70-74	-8.67(-9.18, -8.16)	-3.27(-4.17, -2.36)	-4.75(-5.06, -4.45)	-4.59(-4.8, -4.37)	-0.75(-2.56, 1.1)
75-79	-8.71(-9.31, -8.11)	-4.38(-5.48, -3.26)	-4.9(-5.3, -4.5)	-4.45(-4.72, -4.17)	-0.24(-3.01, 2.62)
Overall	-9.18(-9.6, -8.76)	0.34(-0.06, 0.74)	-4.64(-4.8, -4.47)	-5(-5.1, -4.89)	-1.55(-2.31, -0.78)

Appendix 2.4 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-positive populations

Age group	China	Russia	India	Brazil	South Africa
15-19	0.33(-1.49, 2.18)	-0.01(-5.05, 5.29)	1.94(0.64, 3.25)	-4.32(-5.1, -3.53)	7.7(6.5, 8.91)
20-24	-0.32(-1.19, 0.57)	2.34(0.15, 4.58)	-0.47(-1.32, 0.39)	-5.67(-6.08, -5.27)	4.97(4.16, 5.79)
25-29	-0.6(-1.1, -0.1)	3.22(2.16, 4.28)	-0.25(-0.91, 0.42)	-6.14(-6.4, -5.88)	4.71(4.07, 5.35)
30-34	-0.39(-0.78, 0)	3.24(2.52, 3.96)	1.42(0.82, 2.03)	-5.71(-5.92, -5.51)	5.82(5.24, 6.4)
35-39	-0.29(-0.65, 0.07)	2.01(1.39, 2.62)	2.8(2.2, 3.4)	-4.62(-4.8, -4.44)	6.93(6.36, 7.51)
40-44	-0.41(-0.75, -0.06)	0.23(-0.44, 0.89)	3.72(3.08, 4.36)	-3.35(-3.54, -3.15)	7.55(6.95, 8.16)
45-49	-0.33(-0.71, 0.05)	-0.74(-1.73, 0.27)	4.62(3.87, 5.38)	-2.2(-2.42, -1.97)	7.78(7.11, 8.46)
50-54	-0.21(-0.65, 0.23)	-1.09(-2.36, 0.2)	5.75(4.73, 6.77)	-1.47(-1.74, -1.19)	7.71(6.93, 8.5)
55-59	-0.45(-0.95, 0.06)	-1.48(-3.26, 0.34)	5.7(4.31, 7.12)	-1.11(-1.46, -0.76)	7.53(6.53, 8.54)
60-64	-0.89(-1.49, -0.29)	-1.74(-4.35, 0.95)	4.79(2.5, 7.13)	-0.74(-1.21, -0.27)	7.58(6.03, 9.15)
65-69	-1.13(-2.01, -0.25)	-2.35(-6.71, 2.22)	2.24(-3.23, 8.01)	-0.11(-0.89, 0.68)	7.97(3.98, 12.1)
Overall	-0.42(-0.68, -0.15)	0.42(-0.32, 1.17)	3.09(2.42, 3.77)	-3.32(-3.47, -3.17)	6.97(6.4, 7.54)

Appendix 2.5 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-positive Male

Age group	China	Russia	India	Brazil	South Africa
15-19	0.54(-1.49, 2.61)	-1.15(-7.16, 5.25)	1.93(0.34, 3.55)	-5.01(-5.88, -4.14)	12.25(10.52, 14.02)
20-24	0(-0.95, 0.96)	1.28(-1.26, 3.89)	-1.33(-2.33, -0.33)	-6.09(-6.5, -5.68)	7.01(5.85, 8.19)
25-29	-0.18(-0.71, 0.36)	2.42(1.32, 3.53)	-1.55(-2.27, -0.82)	-6.78(-7.04, -6.53)	4.64(3.85, 5.45)
30-34	0.14(-0.27, 0.55)	2.64(1.94, 3.34)	0.21(-0.4, 0.83)	-6.64(-6.84, -6.44)	5.23(4.58, 5.89)
35-39	0.34(-0.03, 0.71)	1.43(0.85, 2.01)	1.84(1.24, 2.45)	-5.63(-5.81, -5.46)	6.48(5.86, 7.09)
40-44	0.17(-0.19, 0.52)	-0.44(-1.06, 0.18)	2.97(2.33, 3.61)	-4.2(-4.38, -4.01)	7.83(7.19, 8.47)
45-49	0.15(-0.24, 0.54)	-1.41(-2.35, -0.46)	3.94(3.19, 4.7)	-2.81(-3.02, -2.6)	8.74(8.03, 9.45)
50-54	0.3(-0.16, 0.75)	-1.59(-2.83, -0.33)	5.01(3.98, 6.05)	-1.86(-2.12, -1.59)	8.9(8.06, 9.75)
55-59	0.03(-0.49, 0.56)	-1.59(-3.45, 0.29)	5.06(3.61, 6.52)	-1.39(-1.72, -1.05)	8.47(7.38, 9.57)
60-64	-0.53(-1.15, 0.09)	-1.4(-4.29, 1.58)	4.24(1.85, 6.68)	-0.98(-1.43, -0.52)	8.01(6.36, 9.7)
65-69	-0.92(-1.82, -0.01)	-1.85(-7.08, 3.67)	2.08(-3.75, 8.26)	-0.1(-0.87, 0.67)	8.05(3.96, 12.31)
Overall	0.05(-0.23, 0.33)	-0.09(-0.9, 0.73)	2.33(1.64, 3.03)	-3.93(-4.07, -3.79)	7.64(7.02, 8.27)

Appendix 2.6 Annual percentage change for tuberculosis mortality overall and in each age group across BRICS from 1990 and 2019 in HIV-positive Female

Age group	China	Russia	India	Brazil	South Africa
15-19	0.2(-1.5, 1.93)	1.06(-2.11, 4.34)	2.15(0.77, 3.54)	-3.16(-4.13, -2.17)	6.34(4.91, 7.8)
20-24	-0.78(-1.64, 0.09)	3.75(2.29, 5.24)	0.48(-0.48, 1.44)	-4.7(-5.26, -4.13)	4.72(3.79, 5.65)
25-29	-1.45(-1.96, -0.94)	5.06(4.21, 5.92)	1.2(0.4, 2)	-4.64(-5.03, -4.26)	5.01(4.25, 5.78)
30-34	-1.62(-2.03, -1.2)	5.58(4.9, 6.26)	3.04(2.28, 3.8)	-3.53(-3.84, -3.23)	6.23(5.5, 6.96)
35-39	-1.81(-2.21, -1.42)	5(4.34, 5.66)	4.31(3.53, 5.1)	-2.15(-2.44, -1.87)	7.08(6.33, 7.83)
40-44	-1.81(-2.19, -1.42)	3.73(2.98, 4.48)	5.03(4.19, 5.88)	-1.06(-1.37, -0.75)	7.12(6.33, 7.92)
45-49	-1.44(-1.86, -1.02)	2.44(1.42, 3.48)	5.83(4.85, 6.82)	-0.37(-0.74, -0.01)	6.85(5.99, 7.72)
50-54	-1.23(-1.7, -0.75)	0.89(-0.28, 2.07)	6.93(5.63, 8.24)	-0.18(-0.62, 0.26)	6.62(5.63, 7.62)
55-59	-1.39(-1.94, -0.85)	-0.86(-2.26, 0.56)	6.65(4.94, 8.39)	-0.21(-0.75, 0.34)	6.69(5.44, 7.95)
60-64	-1.62(-2.26, -0.97)	-2.12(-3.95, -0.25)	5.6(2.8, 8.47)	-0.06(-0.79, 0.68)	7.18(5.22, 9.18)
65-69	-1.68(-2.63, -0.71)	-2.77(-5.56, 0.11)	2.55(-3.87, 9.4)	-0.15(-1.29, 1.01)	7.93(2.75, 13.38)
Overall	-1.42(-1.7, -1.14)	2.36(1.77, 2.96)	4.22(3.37, 5.08)	-1.76(-1.99, -1.54)	6.57(5.86, 7.3)

Appendix 3.1 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-negative populations

Age group	China	Russia	India	Brazil	South Africa
15-19	9.46(8.08, 11.07)	1.07(0.77, 1.49)	32.49(29.93, 35.26)	2.3(2.13, 2.48)	18.7(13.31, 26.27)
20-24	10.92(9.64, 12.37)	6.62(5.64, 7.77)	43.57(40.71, 46.63)	4.18(3.95, 4.42)	41.59(32.32, 53.51)
25-29	9.13(8.2, 10.16)	10.92(9.59, 12.44)	51.96(48.97, 55.12)	5.47(5.22, 5.73)	69.57(56.29, 85.99)
30-34	9.23(8.41, 10.12)	14.07(12.61, 15.71)	61.04(57.93, 64.33)	6.5(6.25, 6.77)	85.29(70.47, 103.24)
35-39	7.84(7.28, 8.44)	13.7(12.45, 15.06)	66.23(63.32, 69.27)	7.28(7.04, 7.51)	81.29(68.52, 96.43)
40-44	6.94(6.48, 7.44)	16.41(15.14, 17.78)	73.58(70.62, 76.67)	7.88(7.65, 8.12)	80.81(68.59, 95.2)
45-49	5.94(5.56, 6.36)	27.64(25.93, 29.46)	78.81(75.75, 82)	7.98(7.75, 8.21)	91.25(78.17, 106.52)
50-54	5.32(4.97, 5.7)	24.97(23.36, 26.69)	91.13(87.63, 94.77)	7.67(7.45, 7.9)	117.44(101.38, 136.04)
55-59	5.04(4.7, 5.4)	20.13(18.64, 21.74)	99.58(95.8, 103.51)	7.09(6.88, 7.31)	144.7(124.46, 168.23)
60-64	4.85(4.52, 5.2)	14.36(13.08, 15.76)	101.41(97.46, 105.53)	6.35(6.14, 6.56)	141.14(119.04, 167.35)
65-69	4.84(4.49, 5.22)	8.53(7.57, 9.61)	105.59(100.98, 110.41)	6.09(5.86, 6.33)	195.53(161.19, 237.18)
70-74	4.98(4.61, 5.38)	4.91(4.22, 5.71)	113.45(108.17, 118.99)	5.84(5.6, 6.09)	189.75(151.86, 237.08)
75-79	4.46(4.1, 4.85)	3.21(2.65, 3.9)	118.23(112.1, 124.7)	5.74(5.48, 6.01)	193.34(149.17, 250.59)

Appendix 3.2 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-negative Male

Age group	China	Russia	India	Brazil	South Africa
15-19	7.87(6.97, 8.88)	1.75(1.25, 2.45)	23.13(20.74, 25.8)	2.28(2.06, 2.53)	14.69(10.84, 19.91)
20-24	9.68(8.81, 10.63)	11.73(10.09, 13.64)	35.95(32.98, 39.2)	4.69(4.37, 5.05)	40.51(32.86, 49.92)
25-29	8.66(7.99, 9.37)	19.63(17.4, 22.14)	51.88(48.3, 55.72)	6.77(6.39, 7.18)	76.18(64.3, 90.25)
30-34	9.83(9.19, 10.52)	25.7(23.24, 28.41)	67.93(63.88, 72.24)	9.08(8.65, 9.53)	109.43(94.42, 126.84)
35-39	9.35(8.86, 9.86)	24.23(22.22, 26.42)	81.67(77.54, 86.02)	10.82(10.42, 11.25)	114.44(100.48, 130.35)
40-44	8.88(8.45, 9.32)	29.35(27.3, 31.56)	93.47(89.22, 97.93)	12.26(11.84, 12.69)	124.58(110.35, 140.65)
45-49	8.16(7.79, 8.55)	51.35(48.49, 54.37)	107.37(102.73, 112.22)	12.85(12.42, 13.29)	154.66(138.34, 172.91)
50-54	7.6(7.25, 7.96)	47.28(44.53, 50.21)	118.66(113.54, 124)	12.6(12.18, 13.04)	203.91(183.39, 226.72)
55-59	7.49(7.14, 7.86)	39.17(36.54, 41.99)	134.62(128.88, 140.61)	11.75(11.34, 12.17)	248.26(222.34, 277.21)
60-64	7.34(7, 7.7)	28.73(26.41, 31.25)	143.4(137.11, 149.99)	10.62(10.22, 11.04)	242.51(213.82, 275.05)
65-69	7.58(7.2, 7.97)	17.32(15.53, 19.32)	146.86(139.61, 154.48)	10.15(9.71, 10.61)	328.21(284.03, 379.26)
70-74	8.05(7.63, 8.49)	9.94(8.62, 11.48)	153.44(145.28, 162.06)	9.65(9.19, 10.14)	314.06(264.86, 372.4)
75-79	7.64(7.2, 8.09)	6.11(5.02, 7.44)	155.65(146.28, 165.62)	9.45(8.93, 9.99)	321.16(261.79, 394.01)

Appendix 3.3 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-negative Female

Age group	China	Russia	India	Brazil	South Africa
15-19	13.39(10.15, 17.65)	0.29(0.2, 0.4)	47.42(42.36, 53.08)	2.45(2.26, 2.64)	23.8(14.73, 38.46)
20-24	14.31(11.41, 17.93)	1.47(1.2, 1.79)	55.46(50.3, 61.16)	3.77(3.55, 4.01)	42.84(29.01, 63.26)
25-29	10.94(8.97, 13.33)	2.32(1.95, 2.75)	53.45(48.88, 58.45)	4.25(4.03, 4.48)	61.52(43.63, 86.74)
30-34	9.28(7.78, 11.06)	2.84(2.43, 3.31)	54.23(49.97, 58.85)	4.05(3.85, 4.25)	59.56(43.15, 82.22)
35-39	6.36(5.54, 7.31)	3.32(2.9, 3.8)	49.3(45.89, 52.96)	3.91(3.75, 4.07)	48.04(35.89, 64.3)
40-44	4.83(4.23, 5.52)	4.05(3.6, 4.57)	51.22(47.88, 54.8)	3.74(3.6, 3.89)	39.79(29.55, 53.6)
45-49	3.53(3.08, 4.04)	6.05(5.48, 6.69)	46.8(43.71, 50.09)	3.42(3.3, 3.56)	36.43(26.86, 49.41)
50-54	2.9(2.53, 3.34)	5.85(5.29, 6.47)	61.43(57.54, 65.59)	3.15(3.03, 3.28)	44.45(33.28, 59.37)
55-59	2.52(2.19, 2.91)	5.21(4.64, 5.84)	63.63(59.63, 67.89)	2.95(2.84, 3.08)	60.67(45.82, 80.33)
60-64	2.35(2.03, 2.71)	4.47(3.89, 5.12)	60.9(57, 65.06)	2.67(2.56, 2.79)	66.05(48.48, 89.98)
65-69	2.21(1.9, 2.58)	3.74(3.17, 4.42)	67.13(62.37, 72.25)	2.69(2.56, 2.83)	103.48(73.51, 145.67)
70-74	2.18(1.85, 2.56)	3.19(2.65, 3.85)	77.84(72.06, 84.08)	2.77(2.63, 2.92)	107.9(73.9, 157.55)
75-79	1.81(1.52, 2.16)	3.05(2.49, 3.75)	86.44(79.48, 94.02)	2.92(2.76, 3.09)	119.66(78.62, 182.13)

Appendix 3.4 Relative risk of each period compared with the reference (2000–2004) and the corresponding 95%

CIs in HIV-negative populations					
Periods	China	Russia	India	Brazil	South Africa
HIV-negative populations					
1990-1994	2.03(1.94, 2.12)	0.55(0.51, 0.6)	1.45(1.41, 1.49)	1.52(1.49, 1.56)	0.72(0.63, 0.83)
1995-1999	1.36(1.3, 1.42)	0.79(0.74, 0.84)	1.23(1.19, 1.26)	1.28(1.25, 1.31)	0.77(0.68, 0.87)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.6(0.57, 0.63)	0.85(0.8, 0.9)	0.77(0.74, 0.79)	0.75(0.73, 0.77)	1.03(0.93, 1.15)
2010-2014	0.37(0.35, 0.39)	0.52(0.48, 0.55)	0.63(0.61, 0.65)	0.6(0.58, 0.61)	0.68(0.61, 0.76)
2015-2019	0.26(0.25, 0.28)	0.31(0.29, 0.34)	0.52(0.5, 0.53)	0.49(0.48, 0.51)	0.48(0.42, 0.54)
HIV-negative Male					
1990-1994	1.91(1.85, 1.97)	0.57(0.54, 0.62)	1.38(1.33, 1.42)	1.49(1.45, 1.54)	0.68(0.61, 0.75)
1995-1999	1.3(1.26, 1.34)	0.82(0.77, 0.86)	1.2(1.16, 1.24)	1.26(1.22, 1.29)	0.81(0.74, 0.89)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.62(0.6, 0.64)	0.82(0.77, 0.86)	0.79(0.77, 0.82)	0.76(0.74, 0.78)	1.02(0.94, 1.11)
2010-2014	0.39(0.38, 0.41)	0.48(0.44, 0.51)	0.66(0.64, 0.68)	0.61(0.59, 0.63)	0.69(0.63, 0.75)
2015-2019	0.29(0.27, 0.3)	0.27(0.25, 0.3)	0.53(0.51, 0.55)	0.5(0.49, 0.52)	0.5(0.45, 0.55)
HIV-negative Female					
1990-1994	2.26(2.08, 2.45)	0.47(0.42, 0.52)	1.55(1.48, 1.62)	1.58(1.53, 1.63)	0.77(0.63, 0.95)
1995-1999	1.47(1.35, 1.59)	0.65(0.59, 0.71)	1.26(1.21, 1.32)	1.33(1.29, 1.37)	0.66(0.54, 0.81)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.56(0.5, 0.61)	1.04(0.97, 1.13)	0.73(0.69, 0.76)	0.73(0.71, 0.75)	1.07(0.9, 1.27)
2010-2014	0.31(0.28, 0.35)	0.73(0.67, 0.79)	0.59(0.56, 0.62)	0.56(0.54, 0.58)	0.67(0.55, 0.81)
2015-2019	0.22(0.19, 0.25)	0.49(0.45, 0.54)	0.5(0.47, 0.52)	0.47(0.45, 0.49)	0.44(0.35, 0.54)

Appendix 3.5 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV-negative populations

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	27.95(24.89, 31.38)	5.52(3.75, 8.11)	6.1(5.56, 6.7)	6.27(5.79, 6.79)	1.32(0.73, 2.36)
1920-1924	18.81(17.12, 20.65)	3.69(2.82, 4.84)	4.85(4.54, 5.19)	4.85(4.57, 5.14)	1.39(0.97, 2)
1925-1929	13.4(12.33, 14.56)	2.77(2.32, 3.3)	3.91(3.69, 4.13)	3.87(3.68, 4.06)	1.2(0.9, 1.6)
1930-1934	9.32(8.63, 10.07)	2.21(1.94, 2.52)	3.11(2.96, 3.26)	3.09(2.96, 3.23)	1.12(0.88, 1.44)
1935-1939	6.22(5.78, 6.7)	1.8(1.61, 2.01)	2.4(2.29, 2.51)	2.45(2.36, 2.55)	1.01(0.82, 1.26)
1940-1944	3.95(3.68, 4.25)	1.5(1.37, 1.64)	1.89(1.81, 1.97)	1.94(1.87, 2.01)	1.09(0.9, 1.32)
1945-1949	2.43(2.26, 2.61)	1.25(1.14, 1.37)	1.56(1.5, 1.63)	1.5(1.45, 1.55)	1.06(0.89, 1.26)
1950-1954	1.58(1.48, 1.69)	1.11(1.03, 1.2)	1.2(1.15, 1.25)	1.21(1.17, 1.25)	1.11(0.95, 1.3)
1955-1959	1.00	1.00	1.00	1.00	1.00
1960-1964	0.63(0.59, 0.68)	0.87(0.8, 0.93)	0.84(0.81, 0.88)	0.79(0.76, 0.81)	0.9(0.76, 1.05)
1965-1969	0.45(0.42, 0.49)	0.79(0.72, 0.86)	0.72(0.69, 0.75)	0.6(0.58, 0.62)	0.81(0.68, 0.96)
1970-1974	0.31(0.28, 0.34)	0.75(0.68, 0.84)	0.6(0.57, 0.63)	0.45(0.44, 0.47)	0.78(0.65, 0.94)
1975-1979	0.2(0.18, 0.23)	0.82(0.72, 0.92)	0.5(0.47, 0.53)	0.34(0.33, 0.36)	0.78(0.64, 0.95)
1980-1984	0.13(0.11, 0.15)	0.78(0.68, 0.9)	0.38(0.36, 0.41)	0.27(0.26, 0.28)	0.61(0.49, 0.77)
1985-1989	0.09(0.07, 0.1)	0.61(0.52, 0.72)	0.31(0.28, 0.33)	0.22(0.21, 0.24)	0.53(0.41, 0.68)
1990-1994	0.06(0.05, 0.08)	0.5(0.39, 0.64)	0.23(0.21, 0.25)	0.19(0.18, 0.21)	0.46(0.33, 0.63)
1995-1999	0.04(0.03, 0.06)	0.39(0.23, 0.64)	0.16(0.14, 0.18)	0.17(0.16, 0.19)	0.45(0.28, 0.71)
2000-2004	0.03(0.01, 0.05)	0.3(0.06, 1.5)	0.11(0.08, 0.13)	0.14(0.11, 0.17)	0.38(0.16, 0.93)

Appendix 3.6 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV-negative Male

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	22.82(21.01, 24.79)	7.39(4.92, 11.08)	5.51(4.92, 6.17)	5.93(5.39, 6.54)	1.45(0.92, 2.28)
1920-1924	16.27(15.24, 17.37)	4.81(3.67, 6.3)	4.47(4.13, 4.84)	4.55(4.24, 4.88)	1.41(1.06, 1.87)
1925-1929	12.02(11.35, 12.73)	3.44(2.91, 4.06)	3.64(3.42, 3.89)	3.64(3.43, 3.86)	1.22(0.98, 1.52)
1930-1934	8.46(8.02, 8.92)	2.45(2.17, 2.77)	2.95(2.8, 3.12)	2.94(2.8, 3.1)	1.12(0.93, 1.35)
1935-1939	5.66(5.38, 5.96)	1.93(1.75, 2.14)	2.34(2.22, 2.46)	2.36(2.25, 2.46)	1.01(0.86, 1.19)
1940-1944	3.62(3.44, 3.8)	1.6(1.48, 1.74)	1.85(1.76, 1.94)	1.84(1.77, 1.92)	1.07(0.93, 1.24)
1945-1949	2.27(2.16, 2.38)	1.29(1.19, 1.4)	1.52(1.45, 1.6)	1.44(1.39, 1.5)	1.03(0.91, 1.17)
1950-1954	1.5(1.43, 1.58)	1.13(1.06, 1.21)	1.18(1.13, 1.24)	1.18(1.14, 1.23)	1.09(0.97, 1.22)
1955-1959	1.00	1.00	1.00	1.00	1.00
1960-1964	0.67(0.63, 0.71)	0.84(0.79, 0.9)	0.86(0.82, 0.9)	0.79(0.76, 0.82)	0.88(0.78, 0.99)
1965-1969	0.5(0.47, 0.52)	0.75(0.69, 0.81)	0.74(0.7, 0.78)	0.6(0.57, 0.62)	0.77(0.68, 0.88)
1970-1974	0.34(0.32, 0.37)	0.69(0.62, 0.75)	0.64(0.6, 0.68)	0.45(0.43, 0.47)	0.77(0.67, 0.88)
1975-1979	0.23(0.22, 0.25)	0.73(0.65, 0.81)	0.54(0.51, 0.58)	0.35(0.33, 0.37)	0.78(0.67, 0.91)
1980-1984	0.16(0.14, 0.17)	0.66(0.58, 0.75)	0.43(0.4, 0.46)	0.28(0.26, 0.3)	0.66(0.55, 0.78)
1985-1989	0.11(0.1, 0.12)	0.49(0.41, 0.57)	0.36(0.33, 0.39)	0.24(0.22, 0.25)	0.58(0.47, 0.72)
1990-1994	0.08(0.07, 0.1)	0.38(0.29, 0.48)	0.28(0.25, 0.32)	0.22(0.19, 0.24)	0.55(0.43, 0.72)
1995-1999	0.06(0.04, 0.07)	0.26(0.15, 0.45)	0.21(0.18, 0.25)	0.2(0.17, 0.23)	0.58(0.39, 0.85)
2000-2004	0.03(0.02, 0.06)	0.17(0.02, 1.2)	0.14(0.1, 0.19)	0.15(0.12, 0.2)	0.5(0.23, 1.09)

Appendix 3.7 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV-negative Female

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	48.3(38.49, 60.62)	2.74(1.91, 3.93)	6.85(5.96, 7.87)	6.83(6.22, 7.51)	1.06(0.42, 2.7)
1920-1924	28.28(23.4, 34.18)	2.09(1.58, 2.77)	5.31(4.79, 5.89)	5.41(5.04, 5.81)	1.35(0.75, 2.44)
1925-1929	17.87(15.06, 21.21)	1.51(1.22, 1.87)	4.16(3.8, 4.55)	4.36(4.1, 4.63)	1.17(0.73, 1.88)
1930-1934	11.65(9.93, 13.67)	1.16(0.97, 1.4)	3.25(3, 3.52)	3.48(3.3, 3.68)	1.17(0.77, 1.76)
1935-1939	7.62(6.54, 8.88)	1.01(0.85, 1.19)	2.49(2.31, 2.68)	2.74(2.61, 2.88)	1.06(0.73, 1.54)
1940-1944	4.76(4.1, 5.53)	0.93(0.81, 1.08)	1.95(1.82, 2.1)	2.19(2.09, 2.29)	1.13(0.81, 1.59)
1945-1949	2.85(2.46, 3.29)	0.9(0.78, 1.04)	1.6(1.5, 1.72)	1.66(1.59, 1.73)	1.08(0.78, 1.5)
1950-1954	1.78(1.55, 2.04)	0.94(0.84, 1.06)	1.24(1.16, 1.33)	1.27(1.22, 1.33)	1.11(0.82, 1.5)
1955-1959	1.00	1.00	1.00	1.00	1.00
1960-1964	0.55(0.47, 0.65)	1.02(0.92, 1.14)	0.81(0.76, 0.87)	0.77(0.74, 0.81)	0.97(0.72, 1.3)
1965-1969	0.37(0.31, 0.43)	1.11(0.98, 1.25)	0.69(0.64, 0.75)	0.59(0.57, 0.62)	0.92(0.68, 1.24)
1970-1974	0.24(0.2, 0.29)	1.26(1.09, 1.45)	0.54(0.5, 0.58)	0.44(0.42, 0.47)	0.83(0.6, 1.14)
1975-1979	0.15(0.12, 0.19)	1.51(1.29, 1.76)	0.43(0.4, 0.47)	0.33(0.31, 0.35)	0.78(0.55, 1.09)
1980-1984	0.09(0.07, 0.12)	1.72(1.45, 2.04)	0.32(0.29, 0.35)	0.25(0.24, 0.27)	0.56(0.38, 0.81)
1985-1989	0.06(0.04, 0.08)	1.62(1.33, 1.98)	0.25(0.22, 0.27)	0.19(0.18, 0.21)	0.46(0.3, 0.69)
1990-1994	0.04(0.03, 0.06)	1.51(1.16, 1.97)	0.18(0.16, 0.21)	0.16(0.15, 0.18)	0.36(0.22, 0.6)
1995-1999	0.03(0.01, 0.05)	1.35(0.85, 2.15)	0.12(0.1, 0.14)	0.14(0.13, 0.16)	0.34(0.17, 0.67)
2000-2004	0.02(0.01, 0.05)	1.2(0.35, 4.11)	0.08(0.06, 0.1)	0.12(0.1, 0.14)	0.3(0.09, 0.99)

Appendix 4.1 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-positive populations

Age group	China	Russia	India	Brazil	South Africa
15-19	0.02(0.02, 0.02)	0.05(0.03, 0.08)	0.17(0.13, 0.21)	0.91(0.82, 1)	2.58(2.07, 3.22)
20-24	0.07(0.06, 0.08)	0.14(0.11, 0.19)	0.72(0.61, 0.85)	2.57(2.42, 2.72)	11.45(9.76, 13.43)
25-29	0.19(0.17, 0.21)	0.72(0.61, 0.85)	1.89(1.64, 2.16)	4.66(4.45, 4.87)	32.71(28.72, 37.25)
30-34	0.28(0.26, 0.31)	1.53(1.33, 1.75)	2.73(2.43, 3.06)	5.19(5.01, 5.38)	66.25(59.45, 73.83)
35-39	0.32(0.3, 0.34)	2.29(2.05, 2.56)	3.21(2.93, 3.53)	4.58(4.42, 4.75)	111.12(101.67, 121.45)
40-44	0.32(0.3, 0.35)	2.45(2.22, 2.71)	3.57(3.32, 3.85)	3.7(3.56, 3.84)	164.01(152.69, 176.17)
45-49	0.3(0.28, 0.32)	0.93(0.81, 1.07)	3.71(3.45, 3.99)	2.84(2.73, 2.96)	224.99(211.15, 239.74)
50-54	0.25(0.23, 0.27)	0.47(0.39, 0.58)	3.44(3.13, 3.77)	1.91(1.82, 2.01)	271.89(251.43, 294.01)
55-59	0.21(0.19, 0.23)	0.21(0.16, 0.28)	2.39(2.09, 2.73)	1.48(1.4, 1.57)	288.26(259.77, 319.88)
60-64	0.21(0.19, 0.24)	0.1(0.07, 0.16)	1.63(1.34, 2)	1.1(1.02, 1.19)	313.09(271.3, 361.31)
65-69	0.22(0.2, 0.25)	0.06(0.03, 0.11)	1.15(0.85, 1.56)	0.95(0.86, 1.04)	358.01(295.37, 433.94)

Appendix 4.2 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-positive Male

Age group	China	Russia	India	Brazil	South Africa
15-19	0.02(0.01, 0.02)	0.07(0.04, 0.11)	0.15(0.11, 0.2)	1.32(1.19, 1.46)	0.88(0.63, 1.24)
20-24	0.08(0.07, 0.09)	0.19(0.14, 0.26)	0.78(0.66, 0.93)	3.91(3.69, 4.14)	3.31(2.68, 4.08)
25-29	0.22(0.2, 0.25)	1.14(0.96, 1.34)	2.32(2.02, 2.67)	7.37(7.05, 7.69)	18.01(15.54, 20.86)
30-34	0.36(0.34, 0.39)	2.52(2.22, 2.86)	3.52(3.14, 3.96)	8.26(7.98, 8.55)	55.35(49.33, 62.11)
35-39	0.43(0.4, 0.46)	4.01(3.62, 4.44)	4.15(3.77, 4.55)	7.09(6.86, 7.33)	119.71(109.34, 131.05)
40-44	0.45(0.42, 0.48)	4.34(3.96, 4.76)	4.46(4.14, 4.81)	5.57(5.38, 5.77)	190.11(177.06, 204.13)
45-49	0.43(0.4, 0.46)	1.54(1.35, 1.76)	4.43(4.12, 4.78)	4.13(3.97, 4.3)	255.9(240.4, 272.39)
50-54	0.36(0.33, 0.39)	0.78(0.64, 0.93)	3.8(3.45, 4.18)	2.72(2.59, 2.85)	293.63(271.76, 317.25)
55-59	0.31(0.28, 0.34)	0.31(0.23, 0.42)	2.51(2.18, 2.89)	2.07(1.96, 2.19)	314.19(282.58, 349.32)
60-64	0.31(0.28, 0.35)	0.15(0.09, 0.23)	1.67(1.35, 2.07)	1.51(1.41, 1.63)	363.85(313.3, 422.56)
65-69	0.34(0.3, 0.39)	0.09(0.05, 0.17)	1.15(0.83, 1.6)	1.26(1.15, 1.39)	463.2(378.54, 566.8)

Appendix 4.3 Fitted longitudinal age effects of tuberculosis mortality (per 100 000 person-years) and the corresponding 95% CIs in HIV-positive Female

Age group	China	Russia	India	Brazil	South Africa
15-19	0.02(0.02, 0.03)	0.03(0.02, 0.03)	0.16(0.12, 0.21)	0.45(0.39, 0.51)	4.01(3.1, 5.17)
20-24	0.07(0.06, 0.08)	0.07(0.05, 0.09)	0.59(0.48, 0.73)	1.19(1.09, 1.29)	18.22(15, 22.13)
25-29	0.16(0.14, 0.17)	0.26(0.22, 0.3)	1.39(1.16, 1.65)	2.02(1.88, 2.17)	45.39(38.53, 53.47)
30-34	0.2(0.19, 0.22)	0.48(0.42, 0.55)	1.89(1.63, 2.19)	2.24(2.11, 2.39)	77.33(67.21, 88.98)
35-39	0.2(0.19, 0.22)	0.6(0.53, 0.68)	2.23(1.97, 2.51)	2.15(2.03, 2.28)	107.12(95.1, 120.65)
40-44	0.19(0.17, 0.2)	0.61(0.54, 0.68)	2.59(2.35, 2.86)	1.87(1.77, 1.99)	144.89(131.43, 159.73)
45-49	0.16(0.15, 0.18)	0.35(0.3, 0.41)	2.89(2.63, 3.16)	1.62(1.52, 1.72)	201.24(184.54, 219.44)
50-54	0.14(0.12, 0.15)	0.21(0.18, 0.26)	3.05(2.73, 3.41)	1.17(1.09, 1.27)	252.63(227.2, 280.9)
55-59	0.11(0.1, 0.13)	0.15(0.11, 0.19)	2.31(1.96, 2.72)	1(0.91, 1.09)	263.37(229.47, 302.28)
60-64	0.11(0.1, 0.13)	0.09(0.06, 0.12)	1.65(1.3, 2.1)	0.79(0.71, 0.89)	270.4(224.53, 325.65)
65-69	0.11(0.09, 0.12)	0.06(0.04, 0.09)	1.22(0.85, 1.75)	0.74(0.64, 0.85)	285.63(222.81, 366.16)

Appendix 4.4 Relative risk of each period compared with the reference (2000–2004) and the corresponding 95%

CIs in HIV-positive populations					
Periods	China	Russia	India	Brazil	South Africa
HIV-positive populations					
1990-1994	0.55(0.51, 0.59)	0.35(0.3, 0.4)	0.14(0.11, 0.16)	1.34(1.29, 1.39)	0.07(0.06, 0.08)
1995-1999	0.83(0.78, 0.88)	0.65(0.58, 0.73)	0.49(0.46, 0.53)	1.33(1.28, 1.37)	0.41(0.38, 0.44)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.8(0.76, 0.85)	0.97(0.87, 1.08)	0.94(0.89, 0.99)	0.79(0.76, 0.82)	1.21(1.15, 1.27)
2010-2014	0.59(0.56, 0.63)	0.65(0.57, 0.74)	0.62(0.58, 0.67)	0.69(0.67, 0.72)	0.75(0.7, 0.79)
2015-2019	0.61(0.57, 0.65)	0.4(0.34, 0.47)	0.35(0.32, 0.38)	0.63(0.61, 0.66)	0.51(0.47, 0.55)
HIV-positive Male					
1990-1994	0.56(0.52, 0.6)	0.34(0.29, 0.39)	0.15(0.12, 0.18)	1.57(1.51, 1.62)	0.07(0.06, 0.09)
1995-1999	0.83(0.78, 0.89)	0.65(0.59, 0.73)	0.51(0.48, 0.55)	1.42(1.37, 1.47)	0.42(0.39, 0.45)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.83(0.78, 0.88)	0.94(0.85, 1.04)	0.9(0.85, 0.95)	0.77(0.74, 0.8)	1.23(1.17, 1.3)
2010-2014	0.65(0.61, 0.69)	0.58(0.51, 0.67)	0.55(0.51, 0.6)	0.69(0.66, 0.71)	0.83(0.78, 0.89)
2015-2019	0.68(0.64, 0.73)	0.35(0.3, 0.41)	0.32(0.29, 0.36)	0.63(0.6, 0.65)	0.61(0.56, 0.65)
HIV-positive Female					
1990-1994	0.53(0.49, 0.57)	0.39(0.34, 0.45)	0.12(0.1, 0.15)	0.88(0.83, 0.93)	0.07(0.06, 0.09)
1995-1999	0.81(0.76, 0.86)	0.6(0.53, 0.68)	0.47(0.43, 0.51)	1.14(1.09, 1.2)	0.41(0.37, 0.45)
2000-2004	1.00	1.00	1.00	1.00	1.00
2005-2009	0.74(0.7, 0.79)	1.13(1.02, 1.26)	1(0.93, 1.06)	0.82(0.78, 0.86)	1.21(1.14, 1.29)
2010-2014	0.47(0.44, 0.5)	0.94(0.83, 1.05)	0.74(0.68, 0.8)	0.71(0.67, 0.75)	0.71(0.66, 0.77)
2015-2019	0.47(0.44, 0.5)	0.66(0.58, 0.75)	0.39(0.35, 0.44)	0.65(0.61, 0.69)	0.46(0.42, 0.51)

Appendix 4.5 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV-positive populations

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	1.43(1.07, 1.9)	2.02(0.47, 5.61)	0.39(0.06, 2.5)	1.17(0.91, 1.5)	0.07(0.02, 0.24)
1920-1924	1.32(1.1, 1.59)	1.61(0.71, 3.66)	0.28(0.14, 0.56)	1.32(1.14, 1.53)	0.11(0.07, 0.17)
1925-1929	1.12(0.97, 1.3)	1.51(0.87, 2.61)	0.29(0.19, 0.42)	1.35(1.21, 1.5)	0.16(0.12, 0.21)
1930-1934	1.05(0.93, 1.19)	1.26(0.87, 1.84)	0.29(0.22, 0.39)	1.27(1.17, 1.38)	0.23(0.19, 0.28)
1935-1939	1.07(0.96, 1.19)	1.16(0.85, 1.57)	0.44(0.37, 0.52)	1.24(1.17, 1.32)	0.33(0.28, 0.38)
1940-1944	1.1(1.01, 1.2)	1.11(0.93, 1.32)	0.65(0.57, 0.73)	1.18(1.12, 1.24)	0.47(0.42, 0.52)
1945-1949	0.97(0.9, 1.05)	1.07(0.93, 1.22)	0.81(0.74, 0.89)	1.11(1.06, 1.16)	0.68(0.62, 0.74)
1950-1954	1.00	1.00	1.00	1.00	1.00
1955-1959	1.04(0.97, 1.12)	0.95(0.84, 1.07)	1.2(1.12, 1.3)	0.87(0.84, 0.91)	1.47(1.37, 1.58)
1960-1964	0.98(0.91, 1.05)	0.99(0.87, 1.13)	1.4(1.29, 1.53)	0.7(0.67, 0.73)	2.09(1.93, 2.27)
1965-1969	0.95(0.87, 1.03)	1.27(1.1, 1.46)	1.61(1.45, 1.78)	0.49(0.46, 0.51)	2.82(2.55, 3.11)
1970-1974	0.92(0.83, 1.02)	1.84(1.57, 2.14)	1.55(1.37, 1.77)	0.34(0.32, 0.36)	3.54(3.14, 3.99)
1975-1979	0.94(0.84, 1.06)	1.96(1.61, 2.38)	1.37(1.17, 1.6)	0.24(0.23, 0.26)	4.02(3.47, 4.65)
1980-1984	0.87(0.74, 1.02)	1.78(1.3, 2.43)	1.13(0.92, 1.38)	0.19(0.18, 0.21)	4.74(3.94, 5.71)
1985-1989	0.92(0.69, 1.22)	1.8(0.88, 3.67)	1.51(1.14, 2)	0.17(0.15, 0.19)	8.15(6.33, 10.47)
1990-1994	1.08(0.59, 1.97)	1.3(0.23, 7.41)	3.33(2.19, 5.06)	0.17(0.13, 0.22)	22.16(15.39, 31.93)

Appendix 4.6 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV- positive Male

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	1.29(0.96, 1.72)	2(0.34, 11.63)	0.42(0.06, 3.06)	1.19(0.93, 1.53)	0.05(0.01, 0.2)
1920-1924	1.19(0.99, 1.44)	1.55(0.62, 3.88)	0.32(0.15, 0.67)	1.45(1.26, 1.67)	0.09(0.05, 0.14)
1925-1929	1.01(0.87, 1.17)	1.53(0.86, 2.73)	0.33(0.22, 0.5)	1.45(1.31, 1.61)	0.13(0.1, 0.17)
1930-1934	0.94(0.83, 1.08)	1.37(0.95, 1.98)	0.34(0.25, 0.45)	1.35(1.25, 1.46)	0.18(0.15, 0.23)
1935-1939	0.99(0.89, 1.1)	1.27(0.95, 1.69)	0.48(0.4, 0.57)	1.32(1.24, 1.4)	0.26(0.23, 0.3)
1940-1944	1.06(0.97, 1.15)	1.2(1.02, 1.41)	0.67(0.6, 0.76)	1.23(1.17, 1.29)	0.39(0.35, 0.44)
1945-1949	0.96(0.88, 1.03)	1.11(0.98, 1.26)	0.83(0.76, 0.91)	1.14(1.09, 1.19)	0.62(0.57, 0.67)
1950-1954	1.00	1.00	1.00	1.00	1.00
1955-1959	1.06(0.99, 1.14)	0.92(0.82, 1.03)	1.15(1.07, 1.24)	0.84(0.81, 0.87)	1.49(1.39, 1.6)
1960-1964	1.03(0.96, 1.11)	0.92(0.82, 1.05)	1.29(1.18, 1.41)	0.63(0.6, 0.65)	2(1.84, 2.17)
1965-1969	1.06(0.97, 1.15)	1.17(1.02, 1.33)	1.4(1.26, 1.56)	0.41(0.39, 0.42)	2.49(2.25, 2.77)
1970-1974	1.05(0.95, 1.16)	1.66(1.43, 1.93)	1.26(1.1, 1.43)	0.27(0.26, 0.29)	3.03(2.66, 3.46)
1975-1979	1.06(0.94, 1.19)	1.66(1.37, 2.02)	1.01(0.85, 1.19)	0.19(0.18, 0.21)	3.72(3.15, 4.4)
1980-1984	0.99(0.84, 1.17)	1.39(0.99, 1.93)	0.79(0.63, 0.99)	0.16(0.14, 0.17)	4.84(3.83, 6.11)
1985-1989	1.07(0.79, 1.46)	1.3(0.56, 3.04)	1.18(0.85, 1.65)	0.13(0.11, 0.15)	13.84(9.79, 19.55)
1990-1994	1.27(0.65, 2.49)	0.94(0.11, 7.78)	2.97(1.8, 4.91)	0.11(0.08, 0.15)	54.4(34.47, 85.86)

Appendix 4.7 Relative risk of each cohort compared with the reference (cohort 1955–1959) and the corresponding 95% CIs in HIV- positive Female

Cohorts	China	Russia	India	Brazil	South Africa
1915-1919	1.83(1.34, 2.5)	1.51(0.61, 3.73)	0.34(0.04, 3.03)	1.07(0.74, 1.55)	0.08(0.02, 0.43)
1920-1924	1.65(1.35, 2.02)	1.34(0.76, 2.35)	0.22(0.09, 0.53)	1.02(0.81, 1.28)	0.13(0.07, 0.23)
1925-1929	1.41(1.21, 1.65)	1.24(0.82, 1.86)	0.24(0.15, 0.38)	1.08(0.92, 1.26)	0.2(0.14, 0.28)
1930-1934	1.3(1.14, 1.49)	0.98(0.71, 1.36)	0.24(0.17, 0.33)	1.03(0.9, 1.17)	0.28(0.22, 0.36)
1935-1939	1.25(1.11, 1.4)	0.83(0.61, 1.11)	0.38(0.3, 0.48)	1.03(0.93, 1.14)	0.4(0.33, 0.48)
1940-1944	1.22(1.11, 1.34)	0.79(0.65, 0.96)	0.6(0.51, 0.7)	1.02(0.94, 1.11)	0.55(0.48, 0.64)
1945-1949	1.03(0.95, 1.12)	0.86(0.73, 1.01)	0.78(0.69, 0.87)	1.03(0.96, 1.1)	0.74(0.66, 0.83)
1950-1954	1.00	1.00	1.00	1.00	1.00
1955-1959	1(0.93, 1.08)	1.18(1.03, 1.35)	1.31(1.19, 1.44)	0.98(0.92, 1.04)	1.44(1.3, 1.59)
1960-1964	0.85(0.79, 0.92)	1.47(1.28, 1.69)	1.64(1.47, 1.83)	0.93(0.87, 0.99)	2.14(1.92, 2.39)
1965-1969	0.72(0.66, 0.79)	2(1.73, 2.3)	2.03(1.77, 2.32)	0.75(0.7, 0.8)	3.02(2.65, 3.44)
1970-1974	0.68(0.61, 0.76)	2.99(2.57, 3.49)	2.13(1.82, 2.51)	0.58(0.53, 0.62)	3.86(3.32, 4.5)
1975-1979	0.74(0.65, 0.83)	3.59(3, 4.29)	2.04(1.68, 2.47)	0.41(0.37, 0.45)	4.27(3.56, 5.12)
1980-1984	0.66(0.56, 0.78)	3.57(2.79, 4.57)	1.73(1.35, 2.2)	0.32(0.28, 0.37)	5.01(4.01, 6.26)
1985-1989	0.67(0.51, 0.89)	3.62(2.28, 5.75)	2.15(1.57, 2.96)	0.31(0.25, 0.37)	7.78(5.79, 10.44)
1990-1994	0.8(0.46, 1.39)	2.58(0.88, 7.54)	4.38(2.78, 6.91)	0.37(0.27, 0.52)	16.56(10.51, 26.08)

Checklist of information that should be included in new reports of global health estimates

Item #	Checklist item	Reported on page #
Objectives and funding		
1	Define the indicator(s), populations (including age, sex, and geographic entities), and time period(s) for which estimates were made.	3-4
2	List the funding sources for the work.	4
Data Inputs		
<i>For all data inputs from multiple sources that are synthesized as part of the study:</i>		
3	Describe how the data were identified and how the data were accessed.	3
4	Specify the inclusion and exclusion criteria. Identify all ad-hoc exclusions.	3
5	Provide information on all included data sources and their main characteristics. For each data source used, report reference information or contact name/institution, population represented, data collection method, year(s) of data collection, sex and age range, diagnostic criteria or measurement method, and sample size, as relevant.	3
6	Identify and describe any categories of input data that have potentially important biases (e.g., based on characteristics listed in item 5).	3
<i>For data inputs that contribute to the analysis but were not synthesized as part of the study:</i>		
7	Describe and give sources for any other data inputs.	N/A
<i>For all data inputs:</i>		
8	Provide all data inputs in a file format from which data can be efficiently extracted (e.g., a spreadsheet rather than a PDF), including all relevant meta-data listed in item 5. For any data inputs that cannot be shared because of ethical or legal reasons, such as third-party ownership, provide a contact name or the name of the institution that retains the right to the data.	12
Data analysis		
9	Provide a conceptual overview of the data analysis method. A diagram may be helpful.	3-4
10	Provide a detailed description of all steps of the analysis, including mathematical formulae. This description should cover, as relevant, data cleaning, data pre-processing, data adjustments and weighting of data sources, and mathematical or statistical model(s).	4
11	Describe how candidate models were evaluated and how the final model(s) were selected.	N/A
12	Provide the results of an evaluation of model performance, if done, as well as the results of any relevant sensitivity analysis.	N/A
13	Describe methods for calculating uncertainty of the estimates. State which sources of uncertainty were, and were not, accounted for in the uncertainty analysis.	4
14	State how analytic or statistical source code used to generate estimates can be accessed.	4
Results and Discussion		
15	Provide published estimates in a file format from which data can be efficiently extracted.	12
16	Report a quantitative measure of the uncertainty of the estimates (e.g. uncertainty intervals).	5-6
17	Interpret results in light of existing evidence. If updating a previous set of estimates, describe the reasons for changes in estimates.	7-11
18	Discuss limitations of the estimates. Include a discussion of any modelling assumptions or data limitations that affect interpretation of the estimates.	11

This checklist should be used in conjunction with the GATHER statement and Explanation and Elaboration document, found on gather-statement.org

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