

Supporting Information

Quantitative Characterization of Uncertainty in the Concentration-Response Relationship Between Long-term PM_{2.5} Exposure and Mortality at Low Concentrations

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Table S1. The variance for each hypothetical PM_{2.5} concentration distribution with mean annual concentrations ranging from the counterfactual (2.0 µg/m³) to the mean reported in each study at 0.1 µg/m³ increments.

PM_{2.5} Concentrations	Pinault et al. (2017)	Di et al. (2017)	Hart et al. (2015)	Turner et al. (2016)	Cesaroni et al. (2013)	Yin et al. (2017)
2.0	0.2	0.1	0.1	0.1	0.0	0.2
2.1	0.2	0.1	0.1	0.1	0.0	0.2
2.2	0.2	0.1	0.1	0.1	0.0	0.2
2.3	0.3	0.1	0.1	0.1	0.1	0.2
2.4	0.3	0.1	0.1	0.1	0.1	0.3
2.5	0.3	0.2	0.1	0.1	0.1	0.3
2.6	0.4	0.2	0.1	0.1	0.1	0.4
2.7	0.4	0.2	0.2	0.1	0.1	0.4
2.8	0.5	0.2	0.2	0.2	0.1	0.4
2.9	0.5	0.3	0.2	0.2	0.1	0.5
3.0	0.6	0.3	0.2	0.2	0.1	0.5
3.1	0.7	0.3	0.2	0.2	0.1	0.6
3.2	0.7	0.3	0.3	0.2	0.1	0.7
3.3	0.8	0.4	0.3	0.3	0.2	0.7
3.4	0.9	0.4	0.3	0.3	0.2	0.8
3.5	0.9	0.4	0.3	0.3	0.2	0.8
3.6	1.0	0.5	0.4	0.3	0.2	0.9
3.7	1.1	0.5	0.4	0.4	0.2	1.0
3.8	1.2	0.6	0.4	0.4	0.2	1.1
3.9	1.3	0.6	0.4	0.4	0.2	1.1
4.0	1.3	0.6	0.5	0.5	0.3	1.2
4.1	1.4	0.7	0.5	0.5	0.3	1.3
4.2	1.5	0.7	0.5	0.5	0.3	1.4
4.3	1.6	0.8	0.6	0.6	0.3	1.5
4.4	1.7	0.8	0.6	0.6	0.3	1.6
4.5	1.9	0.9	0.7	0.6	0.4	1.7
4.6	2.0	0.9	0.7	0.7	0.4	1.8
4.7	2.1	1.0	0.7	0.7	0.4	1.9
4.8	2.2	1.0	0.8	0.7	0.4	2.0
4.9	2.3	1.1	0.8	0.8	0.4	2.1
5.0	2.5	1.2	0.9	0.8	0.5	2.2
5.1	2.6	1.2	0.9	0.9	0.5	2.4
5.2	2.7	1.3	1.0	0.9	0.5	2.5
5.3	2.9	1.3	1.0	1.0	0.5	2.6
5.4	3.0	1.4	1.1	1.0	0.6	2.8
5.5	3.2	1.5	1.1	1.1	0.6	2.9
5.6	3.3	1.6	1.2	1.1	0.6	3.0
5.7	3.5	1.6	1.2	1.2	0.7	3.2
5.8	3.6	1.7	1.3	1.2	0.7	3.3

5.9	3.8	1.8	1.3	1.3	0.7	3.5
6.0	4.0	1.9	1.4	1.3	0.7	3.6
6.1	4.1	1.9	1.5	1.4	0.8	3.8
6.2	4.3	2.0	1.5	1.5	0.8	3.9
6.3	4.5	2.1	1.6	1.5	0.8	4.1
6.4	4.7	2.2	1.7	1.6	0.9	4.3
6.5	4.9	2.3	1.7	1.6	0.9	4.4
6.6	5.1	2.4	1.8	1.7	1.0	4.6
6.7	5.3	2.5	1.9	1.8	1.0	4.8
6.8	5.5	2.6	1.9	1.8	1.0	5.0
6.9	5.7	2.6	2.0	1.9	1.1	5.2
7.0	5.9	2.7	2.1	2.0	1.1	5.4
7.1	6.1	2.8	2.2	2.1	1.1	5.6
7.2	6.3	2.9	2.2	2.1	1.2	5.8
7.3	6.5	3.1	2.3	2.2	1.2	6.0
7.4^a	6.8	3.2	2.4	2.3	1.3	6.2
7.5	--	3.3	2.5	2.4	1.3	6.4
7.6	--	3.4	2.6	2.4	1.4	6.6
7.7	--	3.5	2.6	2.5	1.4	6.8
7.8	--	3.6	2.7	2.6	1.4	7.1
7.9	--	3.7	2.8	2.7	1.5	7.3
8.0	--	3.8	2.9	2.8	1.5	7.5
8.1	--	4.0	3.0	2.9	1.6	7.8
8.2	--	4.1	3.1	2.9	1.6	8.0
8.3	--	4.2	3.2	3.0	1.7	8.3
8.4	--	4.3	3.3	3.1	1.7	8.5
8.5	--	4.5	3.4	3.2	1.8	8.8
8.6	--	4.6	3.5	3.3	1.8	9.0
8.7	--	4.7	3.6	3.4	1.9	9.3
8.8	--	4.9	3.7	3.5	2.0	9.5
8.9	--	5.0	3.8	3.6	2.0	9.8
9.0	--	5.1	3.9	3.7	2.1	10.1
9.1	--	5.3	4.0	3.8	2.1	10.4
9.2	--	5.4	4.1	3.9	2.2	10.7
9.3	--	5.6	4.2	4.0	2.2	11.0
9.4	--	5.7	4.3	4.1	2.3	11.2
9.5	--	5.9	4.4	4.2	2.4	11.5
9.6	--	6.0	4.6	4.3	2.4	11.8
9.7	--	6.2	4.7	4.5	2.5	12.2
9.8	--	6.3	4.8	4.6	2.5	12.5
9.9	--	6.5	4.9	4.7	2.6	12.8
10.0	--	6.7	5.0	4.8	2.7	13.1
10.1	--	6.8	5.2	4.9	2.7	13.4
10.2	--	7.0	5.3	5.0	2.8	13.8

10.3	--	7.2	5.4	5.2	2.9	14.1
10.4	--	7.3	5.5	5.3	2.9	14.4
10.5	--	7.5	5.7	5.4	3.0	14.8
10.6	--	7.7	5.8	5.5	3.1	15.1
10.7	--	7.9	5.9	5.7	3.2	15.5
10.8	--	8.0	6.1	5.8	3.2	15.8
10.9	--	8.2	6.2	5.9	3.3	16.2
11.0 ^b	--	8.4	6.4	6.1	3.4	16.6
11.1	--	--	6.5	6.2	3.4	16.9
11.2	--	--	6.6	6.3	3.5	17.3
11.3	--	--	6.8	6.5	3.6	17.7
11.4	--	--	6.9	6.6	3.7	18.1
11.5	--	--	7.1	6.7	3.8	18.4
11.6	--	--	7.2	6.9	3.8	18.8
11.7	--	--	7.4	7.0	3.9	19.2
11.8	--	--	7.5	7.2	4.0	19.6
11.9	--	--	7.7	7.3	4.1	20.0
12.0 ^c	--	--	7.8	7.5	4.2	20.5
12.1	--	--	--	7.6	4.2	20.9
12.2	--	--	--	7.8	4.3	21.3
12.3	--	--	--	7.9	4.4	21.7
12.4	--	--	--	8.1	4.5	22.2
12.5	--	--	--	8.3	4.6	22.6
12.6 ^d	--	--	--	8.4	4.7	23.0
12.7	--	--	--	--	4.8	23.5
12.8	--	--	--	--	4.9	23.9
12.9	--	--	--	--	5.0	24.4
13.0	--	--	--	--	5.0	24.8
13.1	--	--	--	--	5.1	25.3
13.2	--	--	--	--	5.2	25.8
13.3	--	--	--	--	5.3	26.2
13.4	--	--	--	--	5.4	26.7
13.5	--	--	--	--	5.5	27.2
13.6	--	--	--	--	5.6	27.7
13.7	--	--	--	--	5.7	28.2
13.8	--	--	--	--	5.8	28.7
13.9	--	--	--	--	5.9	29.2
14.0	--	--	--	--	6.0	29.7
14.1	--	--	--	--	6.1	30.2
14.2	--	--	--	--	6.2	30.7
14.3	--	--	--	--	6.3	31.3
14.4	--	--	--	--	6.4	31.8
14.5	--	--	--	--	6.5	32.3
14.6	--	--	--	--	6.7	32.9

14.7	--	--	--	--	6.8	33.4
14.8	--	--	--	--	6.9	33.9
14.9	--	--	--	--	7.0	34.5
15.0	--	--	--	--	7.1	35.1
15.1	--	--	--	--	7.2	35.6
15.2	--	--	--	--	7.3	36.2
15.3	--	--	--	--	7.4	36.8
15.4	--	--	--	--	7.6	37.3
15.5	--	--	--	--	7.7	37.9
15.6	--	--	--	--	7.8	38.5
15.7	--	--	--	--	7.9	39.1
15.8	--	--	--	--	8.0	39.7
15.9	--	--	--	--	8.1	40.3
16.0	--	--	--	--	8.3	40.9
16.1	--	--	--	--	8.4	41.5
16.2	--	--	--	--	8.5	42.1
16.3	--	--	--	--	8.6	42.8
16.4	--	--	--	--	8.8	43.4
16.5	--	--	--	--	8.9	44.0
16.6	--	--	--	--	9.0	44.7
16.7	--	--	--	--	9.1	45.3
16.8	--	--	--	--	9.3	46.0
16.9	--	--	--	--	9.4	46.6
17.0	--	--	--	--	9.5	47.3
17.1	--	--	--	--	9.7	47.9
17.2	--	--	--	--	9.8	48.6
17.3	--	--	--	--	9.9	49.3
17.4	--	--	--	--	10.1	50.0
17.5	--	--	--	--	10.2	50.6
17.6	--	--	--	--	10.4	51.3
17.7	--	--	--	--	10.5	52.0
17.8	--	--	--	--	10.6	52.7
17.9	--	--	--	--	10.8	53.4
18.0	--	--	--	--	10.9	54.1
18.1	--	--	--	--	11.1	54.9
18.2	--	--	--	--	11.2	55.6
18.3	--	--	--	--	11.3	56.3
18.4	--	--	--	--	11.5	57.0
18.5	--	--	--	--	11.6	57.8
18.6	--	--	--	--	11.8	58.5
18.7	--	--	--	--	11.9	59.3
18.8	--	--	--	--	12.1	60.0
18.9	--	--	--	--	12.2	60.8
19.0	--	--	--	--	12.4	61.6

19.1	--	--	--	--	12.5	62.3
19.2	--	--	--	--	12.7	63.1
19.3	--	--	--	--	12.9	63.9
19.4	--	--	--	--	13.0	64.7
19.5	--	--	--	--	13.2	65.5
19.6	--	--	--	--	13.3	66.2
19.7	--	--	--	--	13.5	67.1
19.8	--	--	--	--	13.7	67.9
19.9	--	--	--	--	13.8	68.7
20.0	--	--	--	--	14.0	69.5
20.1	--	--	--	--	14.1	70.3
20.2	--	--	--	--	14.3	71.1
20.3	--	--	--	--	14.5	72.0
20.4	--	--	--	--	14.6	72.8
20.5	--	--	--	--	14.8	73.7
20.6	--	--	--	--	15.0	74.5
20.7	--	--	--	--	15.1	75.4
20.8	--	--	--	--	15.3	76.2
20.9	--	--	--	--	15.5	77.1
21.0	--	--	--	--	15.7	78.0
21.1	--	--	--	--	15.8	78.8
21.2	--	--	--	--	16.0	79.7
21.3	--	--	--	--	16.2	80.6
21.4	--	--	--	--	16.4	81.5
21.5	--	--	--	--	16.5	82.4
21.6	--	--	--	--	16.7	83.3
21.7	--	--	--	--	16.9	84.2
21.8	--	--	--	--	17.1	85.1
21.9	--	--	--	--	17.3	86.1
22.0	--	--	--	--	17.5	87.0
22.1	--	--	--	--	17.6	87.9
22.2	--	--	--	--	17.8	88.9
22.3	--	--	--	--	18.0	89.8
22.4	--	--	--	--	18.2	90.7
22.5	--	--	--	--	18.4	91.7
22.6	--	--	--	--	18.6	92.7
22.7	--	--	--	--	18.8	93.6
22.8	--	--	--	--	19.0	94.6
22.9	--	--	--	--	19.2	95.6
23.0 ^e	--	--	--	--	19.4	96.6
23.1	--	--	--	--	--	97.5
23.2	--	--	--	--	--	98.5
23.3	--	--	--	--	--	99.5
23.4	--	--	--	--	--	100.5

23.5	--	--	--	--	--	101.5
23.6	--	--	--	--	--	102.6
23.7	--	--	--	--	--	103.6
23.8	--	--	--	--	--	104.6
23.9	--	--	--	--	--	105.6
24.0	--	--	--	--	--	106.7
24.1	--	--	--	--	--	107.7
24.2	--	--	--	--	--	108.8
24.3	--	--	--	--	--	109.8
24.4	--	--	--	--	--	110.9
24.5	--	--	--	--	--	112.0
24.6	--	--	--	--	--	113.0
24.7	--	--	--	--	--	114.1
24.8	--	--	--	--	--	115.2
24.9	--	--	--	--	--	116.3
25.0	--	--	--	--	--	117.4
25.1	--	--	--	--	--	118.5
25.2	--	--	--	--	--	119.6
25.3	--	--	--	--	--	120.7
25.4	--	--	--	--	--	121.8
25.5	--	--	--	--	--	122.9
25.6	--	--	--	--	--	124.1
25.7	--	--	--	--	--	125.2
25.8	--	--	--	--	--	126.3
25.9	--	--	--	--	--	127.5
26.0	--	--	--	--	--	128.6
26.1	--	--	--	--	--	129.8
26.2	--	--	--	--	--	131.0
26.3	--	--	--	--	--	132.1
26.4	--	--	--	--	--	133.3
26.5	--	--	--	--	--	134.5
26.6	--	--	--	--	--	135.7
26.7	--	--	--	--	--	136.9
26.8	--	--	--	--	--	138.1
26.9	--	--	--	--	--	139.3
27.0	--	--	--	--	--	140.5
27.1	--	--	--	--	--	141.7
27.2	--	--	--	--	--	142.9
27.3	--	--	--	--	--	144.1
27.4	--	--	--	--	--	145.4
27.5	--	--	--	--	--	146.6
27.6	--	--	--	--	--	147.9
27.7	--	--	--	--	--	149.1
27.8	--	--	--	--	--	150.4

27.9	--	--	--	--	--	151.6
28.0	--	--	--	--	--	152.9
28.1	--	--	--	--	--	154.2
28.2	--	--	--	--	--	155.5
28.3	--	--	--	--	--	156.7
28.4	--	--	--	--	--	158.0
28.5	--	--	--	--	--	159.3
28.6	--	--	--	--	--	160.6
28.7	--	--	--	--	--	161.9
28.8	--	--	--	--	--	163.3
28.9	--	--	--	--	--	164.6
29.0	--	--	--	--	--	165.9
29.1	--	--	--	--	--	167.2
29.2	--	--	--	--	--	168.6
29.3	--	--	--	--	--	169.9
29.4	--	--	--	--	--	171.3
29.5	--	--	--	--	--	172.6
29.6	--	--	--	--	--	174.0
29.7	--	--	--	--	--	175.4
29.8	--	--	--	--	--	176.7
29.9	--	--	--	--	--	178.1
30.0	--	--	--	--	--	179.5
30.1	--	--	--	--	--	180.9
30.2	--	--	--	--	--	182.3
30.3	--	--	--	--	--	183.7
30.4	--	--	--	--	--	185.1
30.5	--	--	--	--	--	186.5
30.6	--	--	--	--	--	187.9
30.7	--	--	--	--	--	189.4
30.8	--	--	--	--	--	190.8
30.9	--	--	--	--	--	192.2
31.0	--	--	--	--	--	193.7
31.1	--	--	--	--	--	195.1
31.2	--	--	--	--	--	196.6
31.3	--	--	--	--	--	198.1
31.4	--	--	--	--	--	199.5
31.5	--	--	--	--	--	201.0
31.6	--	--	--	--	--	202.5
31.7	--	--	--	--	--	204.0
31.8	--	--	--	--	--	205.5
31.9	--	--	--	--	--	207.0
32.0	--	--	--	--	--	208.5
32.1	--	--	--	--	--	210.0
32.2	--	--	--	--	--	211.5

32.3	--	--	--	--	--	213.0
32.4	--	--	--	--	--	214.6
32.5	--	--	--	--	--	216.1
32.6	--	--	--	--	--	217.6
32.7	--	--	--	--	--	219.2
32.8	--	--	--	--	--	220.7
32.9	--	--	--	--	--	222.3
33.0	--	--	--	--	--	223.9
33.1	--	--	--	--	--	225.4
33.2	--	--	--	--	--	227.0
33.3	--	--	--	--	--	228.6
33.4	--	--	--	--	--	230.2
33.5	--	--	--	--	--	231.8
33.6	--	--	--	--	--	233.4
33.7	--	--	--	--	--	235.0
33.8	--	--	--	--	--	236.6
33.9	--	--	--	--	--	238.2
34.0	--	--	--	--	--	239.9
34.1	--	--	--	--	--	241.5
34.2	--	--	--	--	--	243.1
34.3	--	--	--	--	--	244.8
34.4	--	--	--	--	--	246.4
34.5	--	--	--	--	--	248.1
34.6	--	--	--	--	--	249.8
34.7	--	--	--	--	--	251.4
34.8	--	--	--	--	--	253.1
34.9	--	--	--	--	--	254.8
35.0	--	--	--	--	--	256.5
35.1	--	--	--	--	--	258.2
35.2	--	--	--	--	--	259.9
35.3	--	--	--	--	--	261.6
35.4	--	--	--	--	--	263.3
35.5	--	--	--	--	--	265.0
35.6	--	--	--	--	--	266.7
35.7	--	--	--	--	--	268.5
35.8	--	--	--	--	--	270.2
35.9	--	--	--	--	--	272.0
36.0	--	--	--	--	--	273.7
36.1	--	--	--	--	--	275.5
36.2	--	--	--	--	--	277.2
36.3	--	--	--	--	--	279.0
36.4	--	--	--	--	--	280.8
36.5	--	--	--	--	--	282.6
36.6	--	--	--	--	--	284.3

36.7	--	--	--	--	--	286.1
36.8	--	--	--	--	--	287.9
36.9	--	--	--	--	--	289.7
37.0	--	--	--	--	--	291.6
37.1	--	--	--	--	--	293.4
37.2	--	--	--	--	--	295.2
37.3	--	--	--	--	--	297.0
37.4	--	--	--	--	--	298.9
37.5	--	--	--	--	--	300.7
37.6	--	--	--	--	--	302.6
37.7	--	--	--	--	--	304.4
37.8	--	--	--	--	--	306.3
37.9	--	--	--	--	--	308.2
38.0	--	--	--	--	--	310.0
38.1	--	--	--	--	--	311.9
38.2	--	--	--	--	--	313.8
38.3	--	--	--	--	--	315.7
38.4	--	--	--	--	--	317.6
38.5	--	--	--	--	--	319.5
38.6	--	--	--	--	--	321.4
38.7	--	--	--	--	--	323.3
38.8	--	--	--	--	--	325.3
38.9	--	--	--	--	--	327.2
39.0	--	--	--	--	--	329.1
39.1	--	--	--	--	--	331.1
39.2	--	--	--	--	--	333.0
39.3	--	--	--	--	--	335.0
39.4	--	--	--	--	--	336.9
39.5	--	--	--	--	--	338.9
39.6	--	--	--	--	--	340.9
39.7	--	--	--	--	--	342.9
39.8	--	--	--	--	--	344.9
39.9	--	--	--	--	--	346.9
40.0	--	--	--	--	--	348.9
40.1	--	--	--	--	--	350.9
40.2	--	--	--	--	--	352.9
40.3	--	--	--	--	--	354.9
40.4	--	--	--	--	--	356.9
40.5	--	--	--	--	--	359.0
40.6 ^f	--	--	--	--	--	361.0

^aPinault et al. 2017 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

^bDi et al. 2017 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

^cHart et al. 2015 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

^dTurner et al. 2016 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

^eCesaroni et al. 2013 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

^fYin et al. 2017 mean annual concentration, above which the hypothetical variance is set to the variance reported in the study.

Table S2A. Hazard ratios (HR) and standard and hybrid 95% confidence intervals (CIs) applied to Pinault et al. 2017 and Di et al. 2017 for mean annual PM_{2.5} concentrations ranging from the counterfactual (2.0 µg/m³) to the study means at 0.1 µg/m³ increments.

PM _{2.5}	Pinault et al. (2017)			Di et al. (2017)		
	HR	Hybrid Uncertainty	Standard Uncertainty	HR	Hybrid Uncertainty	Standard Uncertainty
2.0	1.000	(1.000, 1.000)	(1.000, 1.000)	1.000	(1.000, 1.000)	(1.000, 1.000)
2.1	1.002	(1.000, 1.003)	(1.001, 1.002)	1.001	(1.001, 1.001)	(1.001, 1.001)
2.2	1.003	(1.001, 1.006)	(1.003, 1.004)	1.002	(1.001, 1.002)	(1.002, 1.002)
2.3	1.005	(1.001, 1.009)	(1.004, 1.006)	1.002	(1.002, 1.003)	(1.002, 1.002)
2.4	1.007	(1.002, 1.012)	(1.006, 1.008)	1.003	(1.003, 1.004)	(1.003, 1.003)
2.5	1.008	(1.003, 1.014)	(1.007, 1.010)	1.004	(1.003, 1.005)	(1.004, 1.004)
2.6	1.010	(1.004, 1.016)	(1.008, 1.012)	1.005	(1.004, 1.006)	(1.005, 1.005)
2.7	1.012	(1.005, 1.019)	(1.010, 1.013)	1.006	(1.005, 1.007)	(1.005, 1.006)
2.8	1.013	(1.006, 1.021)	(1.011, 1.015)	1.006	(1.005, 1.008)	(1.006, 1.007)
2.9	1.015	(1.007, 1.023)	(1.013, 1.017)	1.007	(1.006, 1.008)	(1.007, 1.007)
3.0	1.017	(1.008, 1.025)	(1.014, 1.019)	1.008	(1.007, 1.009)	(1.008, 1.008)
3.1	1.018	(1.009, 1.028)	(1.016, 1.021)	1.009	(1.008, 1.010)	(1.009, 1.009)
3.2	1.020	(1.011, 1.030)	(1.017, 1.023)	1.010	(1.008, 1.011)	(1.009, 1.010)
3.3	1.022	(1.012, 1.032)	(1.018, 1.025)	1.011	(1.009, 1.012)	(1.010, 1.011)
3.4	1.023	(1.013, 1.034)	(1.020, 1.027)	1.011	(1.010, 1.013)	(1.011, 1.012)
3.5	1.025	(1.015, 1.036)	(1.021, 1.029)	1.012	(1.011, 1.014)	(1.012, 1.013)
3.6	1.027	(1.016, 1.038)	(1.023, 1.031)	1.013	(1.011, 1.015)	(1.013, 1.013)
3.7	1.029	(1.017, 1.040)	(1.024, 1.033)	1.014	(1.012, 1.015)	(1.013, 1.014)
3.8	1.030	(1.019, 1.042)	(1.026, 1.035)	1.015	(1.013, 1.016)	(1.014, 1.015)
3.9	1.032	(1.020, 1.044)	(1.027, 1.037)	1.015	(1.014, 1.017)	(1.015, 1.016)
4.0	1.034	(1.022, 1.046)	(1.028, 1.039)	1.016	(1.015, 1.018)	(1.016, 1.017)
4.1	1.035	(1.023, 1.047)	(1.030, 1.041)	1.017	(1.015, 1.019)	(1.017, 1.018)
4.2	1.037	(1.025, 1.049)	(1.031, 1.043)	1.018	(1.016, 1.020)	(1.017, 1.018)
4.3	1.039	(1.027, 1.051)	(1.033, 1.045)	1.019	(1.017, 1.021)	(1.018, 1.019)
4.4	1.041	(1.028, 1.053)	(1.034, 1.047)	1.020	(1.018, 1.021)	(1.019, 1.020)
4.5	1.042	(1.030, 1.055)	(1.036, 1.049)	1.020	(1.019, 1.022)	(1.020, 1.021)
4.6	1.044	(1.031, 1.057)	(1.037, 1.051)	1.021	(1.019, 1.023)	(1.021, 1.022)
4.7	1.046	(1.033, 1.059)	(1.039, 1.053)	1.022	(1.020, 1.024)	(1.021, 1.023)
4.8	1.047	(1.034, 1.061)	(1.040, 1.055)	1.023	(1.021, 1.025)	(1.022, 1.024)
4.9	1.049	(1.036, 1.062)	(1.041, 1.057)	1.024	(1.022, 1.026)	(1.023, 1.024)
5.0	1.051	(1.038, 1.064)	(1.043, 1.059)	1.024	(1.023, 1.026)	(1.024, 1.025)
5.1	1.053	(1.039, 1.066)	(1.044, 1.061)	1.025	(1.023, 1.027)	(1.025, 1.026)
5.2	1.054	(1.041, 1.068)	(1.046, 1.063)	1.026	(1.024, 1.028)	(1.025, 1.027)
5.3	1.056	(1.043, 1.070)	(1.047, 1.065)	1.027	(1.025, 1.029)	(1.026, 1.028)
5.4	1.058	(1.044, 1.072)	(1.049, 1.067)	1.028	(1.026, 1.030)	(1.027, 1.029)
5.5	1.060	(1.046, 1.074)	(1.050, 1.069)	1.029	(1.027, 1.031)	(1.028, 1.029)
5.6	1.061	(1.048, 1.075)	(1.052, 1.071)	1.029	(1.027, 1.031)	(1.029, 1.030)
5.7	1.063	(1.049, 1.077)	(1.053, 1.073)	1.030	(1.028, 1.032)	(1.029, 1.031)

5.8	1.065	(1.051, 1.079)	(1.055, 1.075)	1.031	(1.029, 1.033)	(1.030, 1.032)
5.9	1.067	(1.053, 1.081)	(1.056, 1.077)	1.032	(1.030, 1.034)	(1.031, 1.033)
6.0	1.068	(1.054, 1.083)	(1.058, 1.079)	1.033	(1.031, 1.035)	(1.032, 1.034)
6.1	1.070	(1.056, 1.085)	(1.059, 1.081)	1.034	(1.032, 1.036)	(1.033, 1.035)
6.2	1.072	(1.058, 1.086)	(1.061, 1.083)	1.034	(1.032, 1.037)	(1.033, 1.035)
6.3	1.074	(1.059, 1.088)	(1.062, 1.086)	1.035	(1.033, 1.037)	(1.034, 1.036)
6.4	1.076	(1.061, 1.090)	(1.064, 1.088)	1.036	(1.034, 1.038)	(1.035, 1.037)
6.5	1.077	(1.063, 1.092)	(1.065, 1.090)	1.037	(1.035, 1.039)	(1.036, 1.038)
6.6	1.079	(1.065, 1.094)	(1.067, 1.092)	1.038	(1.036, 1.040)	(1.037, 1.039)
6.7	1.081	(1.066, 1.096)	(1.068, 1.094)	1.039	(1.037, 1.041)	(1.038, 1.040)
6.8	1.083	(1.068, 1.098)	(1.070, 1.096)	1.039	(1.037, 1.042)	(1.038, 1.041)
6.9	1.084	(1.070, 1.099)	(1.071, 1.098)	1.040	(1.038, 1.042)	(1.039, 1.041)
7.0	1.086	(1.072, 1.101)	(1.073, 1.100)	1.041	(1.039, 1.043)	(1.040, 1.042)
7.1	1.088	(1.073, 1.103)	(1.074, 1.102)	1.042	(1.040, 1.044)	(1.041, 1.043)
7.2	1.090	(1.075, 1.105)	(1.076, 1.104)	1.043	(1.041, 1.045)	(1.042, 1.044)
7.3	1.092	(1.077, 1.107)	(1.077, 1.106)	1.044	(1.042, 1.046)	(1.042, 1.045)
7.4 ^a	1.093	(1.079, 1.109)	(1.079, 1.109)	1.045	(1.042, 1.047)	(1.043, 1.046)
7.5	1.095	(1.080, 1.111)	---	1.045	(1.043, 1.047)	(1.044, 1.047)
7.6	1.097	(1.082, 1.113)	---	1.046	(1.044, 1.048)	(1.045, 1.048)
7.7	1.099	(1.083, 1.115)	---	1.047	(1.045, 1.049)	(1.046, 1.048)
7.8	1.101	(1.085, 1.117)	---	1.048	(1.046, 1.050)	(1.046, 1.049)
7.9	1.103	(1.086, 1.119)	---	1.049	(1.047, 1.051)	(1.047, 1.050)
8.0	1.104	(1.088, 1.121)	---	1.050	(1.047, 1.052)	(1.048, 1.051)
8.1	1.106	(1.089, 1.124)	---	1.050	(1.048, 1.053)	(1.049, 1.052)
8.2	1.108	(1.091, 1.126)	---	1.051	(1.049, 1.053)	(1.050, 1.053)
8.3	1.110	(1.092, 1.128)	---	1.052	(1.050, 1.054)	(1.051, 1.054)
8.4	1.112	(1.094, 1.130)	---	1.053	(1.051, 1.055)	(1.051, 1.055)
8.5	1.114	(1.095, 1.132)	---	1.054	(1.052, 1.056)	(1.052, 1.055)
8.6	1.115	(1.097, 1.134)	---	1.055	(1.053, 1.057)	(1.053, 1.056)
8.7	1.117	(1.098, 1.136)	---	1.056	(1.053, 1.058)	(1.054, 1.057)
8.8	1.119	(1.100, 1.139)	---	1.056	(1.054, 1.059)	(1.055, 1.058)
8.9	1.121	(1.101, 1.141)	---	1.057	(1.055, 1.059)	(1.056, 1.059)
9.0	1.123	(1.103, 1.143)	---	1.058	(1.056, 1.060)	(1.056, 1.060)
9.1	1.125	(1.105, 1.145)	---	1.059	(1.057, 1.061)	(1.057, 1.061)
9.2	1.127	(1.106, 1.147)	---	1.060	(1.058, 1.062)	(1.058, 1.062)
9.3	1.128	(1.108, 1.150)	---	1.061	(1.058, 1.063)	(1.059, 1.062)
9.4	1.130	(1.109, 1.152)	---	1.062	(1.059, 1.064)	(1.060, 1.063)
9.5	1.132	(1.111, 1.154)	---	1.062	(1.060, 1.065)	(1.061, 1.064)
9.6	1.134	(1.112, 1.156)	---	1.063	(1.061, 1.065)	(1.061, 1.065)
9.7	1.136	(1.114, 1.158)	---	1.064	(1.062, 1.066)	(1.062, 1.066)
9.8	1.138	(1.115, 1.161)	---	1.065	(1.063, 1.067)	(1.063, 1.067)
9.9	1.140	(1.117, 1.163)	---	1.066	(1.064, 1.068)	(1.064, 1.068)
10.0	1.142	(1.119, 1.165)	---	1.067	(1.064, 1.069)	(1.065, 1.069)
10.1	1.143	(1.120, 1.167)	---	1.068	(1.065, 1.070)	(1.066, 1.070)

10.2	1.145	(1.122, 1.169)	---	1.068	(1.066, 1.071)	(1.066, 1.070)
10.3	1.147	(1.123, 1.172)	---	1.069	(1.067, 1.071)	(1.067, 1.071)
10.4	1.149	(1.125, 1.174)	---	1.070	(1.068, 1.072)	(1.068, 1.072)
10.5	1.151	(1.126, 1.176)	---	1.071	(1.069, 1.073)	(1.069, 1.073)
10.6	1.153	(1.128, 1.178)	---	1.072	(1.070, 1.074)	(1.070, 1.074)
10.7	1.155	(1.130, 1.181)	---	1.073	(1.070, 1.075)	(1.071, 1.075)
10.8	1.157	(1.131, 1.183)	---	1.074	(1.071, 1.076)	(1.071, 1.076)
10.9	1.159	(1.133, 1.185)	---	1.074	(1.072, 1.077)	(1.072, 1.077)
11.0^b	1.161	(1.134, 1.187)	---	1.075	(1.073, 1.078)	(1.073, 1.078)

^aPinault et al. 2017 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

^bDi et al. 2017 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

Note: HR calculations are anchored to 2.0 $\mu\text{g}/\text{m}^3$, such that the increment used to calculate HRs at each mean annual $\text{PM}_{2.5}$ concentration is equivalent to the mean concentration minus 2.0. If you standardize the HR at each mean concentration to a 10 $\mu\text{g}/\text{m}^3$ increase, as is done in most long-term $\text{PM}_{2.5}$ exposure and mortality epidemiologic studies, the HR is equal to standardized HR reported in the respective study for all hypothetical mean annual $\text{PM}_{2.5}$ concentrations.

Table S2B. Hazard ratios (HR) and standard and hybrid 95% confidence intervals (CIs) applied to Hart et al. 2015 and Turner et al. 2016 for mean annual PM_{2.5} concentrations ranging from the counterfactual (2.0 µg/m³) to the study means at 0.1 µg/m³ increments.

PM _{2.5}	Hart et al. (2015)			Turner et al. (2016)		
	HR	Hybrid Uncertainty	Standard Uncertainty	HR	Hybrid Uncertainty	Standard Uncertainty
2.0	1.000	(1.000, 1.000)	(1.000, 1.000)	1.000	(1.000, 1.000)	(1.000, 1.000)
2.1	1.001	(0.993, 1.009)	(1.000, 1.002)	1.001	(0.999, 1.002)	(1.001, 1.001)
2.2	1.002	(0.988, 1.017)	(1.001, 1.004)	1.001	(0.998, 1.004)	(1.001, 1.002)
2.3	1.004	(0.983, 1.024)	(1.001, 1.006)	1.002	(0.998, 1.006)	(1.002, 1.002)
2.4	1.005	(0.980, 1.031)	(1.002, 1.008)	1.003	(0.998, 1.008)	(1.002, 1.003)
2.5	1.006	(0.976, 1.037)	(1.002, 1.010)	1.003	(0.997, 1.009)	(1.003, 1.004)
2.6	1.007	(0.974, 1.042)	(1.003, 1.012)	1.004	(0.997, 1.011)	(1.003, 1.005)
2.7	1.009	(0.972, 1.047)	(1.003, 1.014)	1.005	(0.997, 1.012)	(1.004, 1.006)
2.8	1.010	(0.970, 1.051)	(1.004, 1.016)	1.005	(0.997, 1.013)	(1.004, 1.007)
2.9	1.011	(0.968, 1.055)	(1.004, 1.018)	1.006	(0.998, 1.015)	(1.005, 1.007)
3.0	1.012	(0.967, 1.059)	(1.005, 1.020)	1.007	(0.998, 1.016)	(1.005, 1.008)
3.1	1.014	(0.966, 1.063)	(1.005, 1.022)	1.007	(0.998, 1.017)	(1.006, 1.009)
3.2	1.015	(0.966, 1.066)	(1.006, 1.024)	1.008	(0.998, 1.018)	(1.006, 1.010)
3.3	1.016	(0.965, 1.070)	(1.006, 1.026)	1.009	(0.999, 1.019)	(1.007, 1.011)
3.4	1.017	(0.965, 1.073)	(1.007, 1.028)	1.010	(0.999, 1.020)	(1.008, 1.011)
3.5	1.019	(0.964, 1.076)	(1.007, 1.030)	1.010	(0.999, 1.021)	(1.008, 1.012)
3.6	1.020	(0.964, 1.079)	(1.008, 1.032)	1.011	(1.000, 1.022)	(1.009, 1.013)
3.7	1.021	(0.964, 1.081)	(1.008, 1.034)	1.012	(1.000, 1.023)	(1.009, 1.014)
3.8	1.022	(0.964, 1.084)	(1.009, 1.036)	1.012	(1.001, 1.024)	(1.010, 1.015)
3.9	1.023	(0.964, 1.086)	(1.009, 1.038)	1.013	(1.001, 1.025)	(1.010, 1.016)
4.0	1.025	(0.964, 1.089)	(1.009, 1.040)	1.014	(1.002, 1.026)	(1.011, 1.016)
4.1	1.026	(0.965, 1.091)	(1.010, 1.042)	1.014	(1.002, 1.027)	(1.011, 1.017)
4.2	1.027	(0.965, 1.093)	(1.010, 1.044)	1.015	(1.003, 1.028)	(1.012, 1.018)
4.3	1.029	(0.966, 1.096)	(1.011, 1.046)	1.016	(1.003, 1.028)	(1.012, 1.019)
4.4	1.030	(0.966, 1.098)	(1.011, 1.048)	1.016	(1.004, 1.029)	(1.013, 1.020)
4.5	1.031	(0.966, 1.100)	(1.012, 1.051)	1.017	(1.004, 1.030)	(1.014, 1.021)
4.6	1.032	(0.967, 1.102)	(1.012, 1.053)	1.018	(1.005, 1.031)	(1.014, 1.021)
4.7	1.034	(0.968, 1.104)	(1.013, 1.055)	1.018	(1.005, 1.032)	(1.015, 1.022)
4.8	1.035	(0.968, 1.106)	(1.013, 1.057)	1.019	(1.006, 1.033)	(1.015, 1.023)
4.9	1.036	(0.969, 1.108)	(1.014, 1.059)	1.020	(1.006, 1.033)	(1.016, 1.024)
5.0	1.037	(0.970, 1.110)	(1.014, 1.061)	1.021	(1.007, 1.034)	(1.016, 1.025)
5.1	1.039	(0.970, 1.112)	(1.015, 1.063)	1.021	(1.008, 1.035)	(1.017, 1.026)
5.2	1.040	(0.971, 1.113)	(1.015, 1.065)	1.022	(1.008, 1.036)	(1.017, 1.026)
5.3	1.041	(0.972, 1.115)	(1.016, 1.067)	1.023	(1.009, 1.037)	(1.018, 1.027)
5.4	1.042	(0.973, 1.117)	(1.016, 1.069)	1.023	(1.009, 1.037)	(1.018, 1.028)
5.5	1.044	(0.974, 1.119)	(1.017, 1.071)	1.024	(1.010, 1.038)	(1.019, 1.029)
5.6	1.045	(0.975, 1.121)	(1.017, 1.074)	1.025	(1.011, 1.039)	(1.020, 1.030)
5.7	1.046	(0.975, 1.122)	(1.018, 1.076)	1.025	(1.011, 1.040)	(1.020, 1.031)

5.8	1.048	(0.976, 1.124)	(1.018, 1.078)	1.026	(1.012, 1.040)	(1.021, 1.031)
5.9	1.049	(0.977, 1.126)	(1.019, 1.080)	1.027	(1.013, 1.041)	(1.021, 1.032)
6.0	1.050	(0.978, 1.127)	(1.019, 1.082)	1.027	(1.013, 1.042)	(1.022, 1.033)
6.1	1.051	(0.979, 1.129)	(1.020, 1.084)	1.028	(1.014, 1.043)	(1.022, 1.034)
6.2	1.053	(0.980, 1.131)	(1.020, 1.086)	1.029	(1.014, 1.043)	(1.023, 1.035)
6.3	1.054	(0.981, 1.132)	(1.020, 1.089)	1.030	(1.015, 1.044)	(1.023, 1.036)
6.4	1.055	(0.982, 1.134)	(1.021, 1.091)	1.030	(1.016, 1.045)	(1.024, 1.037)
6.5	1.057	(0.983, 1.135)	(1.021, 1.093)	1.031	(1.016, 1.046)	(1.024, 1.037)
6.6	1.058	(0.984, 1.137)	(1.022, 1.095)	1.032	(1.017, 1.046)	(1.025, 1.038)
6.7	1.059	(0.985, 1.139)	(1.022, 1.097)	1.032	(1.018, 1.047)	(1.026, 1.039)
6.8	1.060	(0.986, 1.140)	(1.023, 1.099)	1.033	(1.018, 1.048)	(1.026, 1.040)
6.9	1.062	(0.987, 1.142)	(1.023, 1.101)	1.034	(1.019, 1.049)	(1.027, 1.041)
7.0	1.063	(0.988, 1.143)	(1.024, 1.104)	1.034	(1.020, 1.049)	(1.027, 1.042)
7.1	1.064	(0.989, 1.145)	(1.024, 1.106)	1.035	(1.020, 1.050)	(1.028, 1.043)
7.2	1.066	(0.990, 1.146)	(1.025, 1.108)	1.036	(1.021, 1.051)	(1.028, 1.043)
7.3	1.067	(0.992, 1.148)	(1.025, 1.110)	1.037	(1.022, 1.052)	(1.029, 1.044)
7.4	1.068	(0.993, 1.150)	(1.026, 1.112)	1.037	(1.022, 1.052)	(1.029, 1.045)
7.5	1.070	(0.994, 1.151)	(1.026, 1.115)	1.038	(1.023, 1.053)	(1.030, 1.046)
7.6	1.071	(0.995, 1.153)	(1.027, 1.117)	1.039	(1.024, 1.054)	(1.031, 1.047)
7.7	1.072	(0.996, 1.154)	(1.027, 1.119)	1.039	(1.024, 1.055)	(1.031, 1.048)
7.8	1.073	(0.997, 1.156)	(1.028, 1.121)	1.040	(1.025, 1.055)	(1.032, 1.048)
7.9	1.075	(0.998, 1.157)	(1.028, 1.123)	1.041	(1.026, 1.056)	(1.032, 1.049)
8.0	1.076	(0.999, 1.159)	(1.029, 1.126)	1.041	(1.026, 1.057)	(1.033, 1.050)
8.1	1.077	(1.000, 1.160)	(1.029, 1.128)	1.042	(1.027, 1.057)	(1.033, 1.051)
8.2	1.079	(1.002, 1.162)	(1.030, 1.130)	1.043	(1.028, 1.058)	(1.034, 1.052)
8.3	1.080	(1.003, 1.163)	(1.030, 1.132)	1.044	(1.028, 1.059)	(1.034, 1.053)
8.4	1.081	(1.004, 1.165)	(1.031, 1.135)	1.044	(1.029, 1.060)	(1.035, 1.054)
8.5	1.083	(1.005, 1.166)	(1.031, 1.137)	1.045	(1.030, 1.060)	(1.036, 1.054)
8.6	1.084	(1.006, 1.168)	(1.032, 1.139)	1.046	(1.030, 1.061)	(1.036, 1.055)
8.7	1.085	(1.007, 1.169)	(1.032, 1.141)	1.046	(1.031, 1.062)	(1.037, 1.056)
8.8	1.087	(1.009, 1.171)	(1.033, 1.144)	1.047	(1.032, 1.063)	(1.037, 1.057)
8.9	1.088	(1.010, 1.172)	(1.033, 1.146)	1.048	(1.032, 1.063)	(1.038, 1.058)
9.0	1.089	(1.011, 1.174)	(1.034, 1.148)	1.049	(1.033, 1.064)	(1.038, 1.059)
9.1	1.091	(1.012, 1.175)	(1.034, 1.150)	1.049	(1.034, 1.065)	(1.039, 1.060)
9.2	1.092	(1.013, 1.177)	(1.035, 1.153)	1.050	(1.035, 1.065)	(1.039, 1.061)
9.3	1.093	(1.015, 1.178)	(1.035, 1.155)	1.051	(1.035, 1.066)	(1.040, 1.061)
9.4	1.095	(1.016, 1.180)	(1.036, 1.157)	1.051	(1.036, 1.067)	(1.041, 1.062)
9.5	1.096	(1.017, 1.181)	(1.036, 1.159)	1.052	(1.037, 1.068)	(1.041, 1.063)
9.6	1.097	(1.018, 1.183)	(1.037, 1.162)	1.053	(1.037, 1.068)	(1.042, 1.064)
9.7	1.099	(1.019, 1.184)	(1.037, 1.164)	1.053	(1.038, 1.069)	(1.042, 1.065)
9.8	1.100	(1.021, 1.186)	(1.037, 1.166)	1.054	(1.039, 1.070)	(1.043, 1.066)
9.9	1.101	(1.022, 1.187)	(1.038, 1.169)	1.055	(1.039, 1.071)	(1.043, 1.067)
10.0	1.103	(1.023, 1.188)	(1.038, 1.171)	1.056	(1.040, 1.071)	(1.044, 1.067)
10.1	1.104	(1.024, 1.190)	(1.039, 1.173)	1.056	(1.041, 1.072)	(1.044, 1.068)

10.2	1.105	(1.026, 1.191)	(1.039, 1.176)	1.057	(1.042, 1.073)	(1.045, 1.069)
10.3	1.107	(1.027, 1.193)	(1.040, 1.178)	1.058	(1.042, 1.074)	(1.046, 1.070)
10.4	1.108	(1.028, 1.194)	(1.040, 1.180)	1.058	(1.043, 1.074)	(1.046, 1.071)
10.5	1.109	(1.029, 1.196)	(1.041, 1.183)	1.059	(1.044, 1.075)	(1.047, 1.072)
10.6	1.111	(1.031, 1.197)	(1.041, 1.185)	1.060	(1.044, 1.076)	(1.047, 1.073)
10.7	1.112	(1.032, 1.199)	(1.042, 1.187)	1.061	(1.045, 1.076)	(1.048, 1.074)
10.8	1.114	(1.033, 1.200)	(1.042, 1.190)	1.061	(1.046, 1.077)	(1.048, 1.074)
10.9	1.115	(1.034, 1.202)	(1.043, 1.192)	1.062	(1.046, 1.078)	(1.049, 1.075)
11.0	1.116	(1.036, 1.203)	(1.043, 1.194)	1.063	(1.047, 1.079)	(1.050, 1.076)
11.1	1.118	(1.037, 1.205)	(1.044, 1.197)	1.064	(1.048, 1.079)	(1.050, 1.077)
11.2	1.119	(1.038, 1.206)	(1.044, 1.199)	1.064	(1.049, 1.080)	(1.051, 1.078)
11.3	1.120	(1.039, 1.208)	(1.045, 1.201)	1.065	(1.049, 1.081)	(1.051, 1.079)
11.4	1.122	(1.041, 1.209)	(1.045, 1.204)	1.066	(1.050, 1.082)	(1.052, 1.080)
11.5	1.123	(1.042, 1.211)	(1.046, 1.206)	1.066	(1.051, 1.082)	(1.052, 1.081)
11.6	1.124	(1.043, 1.212)	(1.046, 1.208)	1.067	(1.051, 1.083)	(1.053, 1.081)
11.7	1.126	(1.044, 1.214)	(1.047, 1.211)	1.068	(1.052, 1.084)	(1.053, 1.082)
11.8	1.127	(1.046, 1.215)	(1.047, 1.213)	1.069	(1.053, 1.084)	(1.054, 1.083)
11.9	1.129	(1.047, 1.217)	(1.048, 1.216)	1.069	(1.054, 1.085)	(1.055, 1.084)
12.0^a	1.130	(1.048, 1.218)	(1.048, 1.218)	1.070	(1.054, 1.086)	(1.055, 1.085)
12.1	1.131	(1.049, 1.220)	---	1.071	(1.055, 1.087)	(1.056, 1.086)
12.2	1.133	(1.049, 1.223)	---	1.071	(1.056, 1.087)	(1.056, 1.087)
12.3	1.134	(1.050, 1.225)	---	1.072	(1.056, 1.088)	(1.057, 1.088)
12.4	1.136	(1.050, 1.228)	---	1.073	(1.057, 1.089)	(1.057, 1.089)
12.5	1.137	(1.051, 1.230)	---	1.074	(1.058, 1.090)	(1.058, 1.089)
12.6^b	1.138	(1.051, 1.233)	---	1.074	(1.059, 1.090)	(1.059, 1.090)

^aHart et al. 2015 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

^bTurner et al. 2016 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

Note: HR calculations are anchored to 2.0 µg/m³, such that the increment used to calculate HRs at each mean annual PM_{2.5} concentration is equivalent to the mean concentration minus 2.0. If you standardize the HR at each mean concentration to a 10 µg/m³ increase, as is done in most long-term PM_{2.5} exposure and mortality epidemiologic studies, the HR is equal to standardized HR reported in the respective study for all hypothetical mean annual PM_{2.5} concentrations.

Table S2C. Hazard ratios (HR) and standard and hybrid 95% confidence intervals (CIs) applied to Cesaroni et al. 2013 and Yin et al. 2017 for mean annual PM_{2.5} concentrations ranging from the counterfactual (2.0 µg/m³) to the study means at 0.1 µg/m³ increments.

PM _{2.5}	Cesaroni et al. (2013)			Yin et al. (2016)		
	HR	Hybrid Uncertainty	Standard Uncertainty	HR	Hybrid Uncertainty	Standard Uncertainty
2.0	1.000	(1.000, 1.000)	(1.000, 1.000)	1.000	(1.000, 1.000)	(1.000, 1.000)
2.1	1.000	(0.998, 1.003)	(1.000, 1.000)	1.001	(0.999, 1.003)	(1.001, 1.001)
2.2	1.001	(0.997, 1.005)	(1.001, 1.001)	1.002	(0.998, 1.006)	(1.002, 1.002)
2.3	1.001	(0.996, 1.007)	(1.001, 1.001)	1.003	(0.997, 1.008)	(1.002, 1.003)
2.4	1.002	(0.995, 1.009)	(1.001, 1.002)	1.003	(0.997, 1.010)	(1.003, 1.004)
2.5	1.002	(0.994, 1.010)	(1.001, 1.002)	1.004	(0.997, 1.012)	(1.004, 1.005)
2.6	1.002	(0.993, 1.012)	(1.002, 1.003)	1.005	(0.996, 1.014)	(1.005, 1.005)
2.7	1.003	(0.993, 1.013)	(1.002, 1.003)	1.006	(0.996, 1.016)	(1.006, 1.006)
2.8	1.003	(0.992, 1.014)	(1.002, 1.004)	1.007	(0.996, 1.018)	(1.007, 1.007)
2.9	1.004	(0.992, 1.015)	(1.003, 1.004)	1.008	(0.997, 1.019)	(1.007, 1.008)
3.0	1.004	(0.991, 1.017)	(1.003, 1.005)	1.009	(0.997, 1.021)	(1.008, 1.009)
3.1	1.004	(0.991, 1.018)	(1.003, 1.005)	1.010	(0.997, 1.022)	(1.009, 1.010)
3.2	1.005	(0.991, 1.019)	(1.004, 1.006)	1.010	(0.997, 1.024)	(1.010, 1.011)
3.3	1.005	(0.991, 1.019)	(1.004, 1.006)	1.011	(0.998, 1.025)	(1.011, 1.012)
3.4	1.006	(0.991, 1.020)	(1.004, 1.007)	1.012	(0.998, 1.026)	(1.011, 1.013)
3.5	1.006	(0.991, 1.021)	(1.004, 1.007)	1.013	(0.999, 1.028)	(1.012, 1.014)
3.6	1.006	(0.991, 1.022)	(1.005, 1.008)	1.014	(0.999, 1.029)	(1.013, 1.015)
3.7	1.007	(0.991, 1.023)	(1.005, 1.008)	1.015	(1.000, 1.030)	(1.014, 1.016)
3.8	1.007	(0.991, 1.023)	(1.005, 1.009)	1.016	(1.000, 1.031)	(1.015, 1.016)
3.9	1.007	(0.991, 1.024)	(1.006, 1.009)	1.017	(1.001, 1.032)	(1.016, 1.017)
4.0	1.008	(0.991, 1.025)	(1.006, 1.010)	1.017	(1.001, 1.034)	(1.016, 1.018)
4.1	1.008	(0.991, 1.026)	(1.006, 1.010)	1.018	(1.002, 1.035)	(1.017, 1.019)
4.2	1.009	(0.991, 1.026)	(1.007, 1.011)	1.019	(1.003, 1.036)	(1.018, 1.020)
4.3	1.009	(0.992, 1.027)	(1.007, 1.011)	1.020	(1.003, 1.037)	(1.019, 1.021)
4.4	1.009	(0.992, 1.027)	(1.007, 1.012)	1.021	(1.004, 1.038)	(1.020, 1.022)
4.5	1.010	(0.992, 1.028)	(1.007, 1.012)	1.022	(1.005, 1.039)	(1.021, 1.023)
4.6	1.010	(0.992, 1.029)	(1.008, 1.013)	1.023	(1.005, 1.040)	(1.021, 1.024)
4.7	1.011	(0.992, 1.029)	(1.008, 1.013)	1.024	(1.006, 1.041)	(1.022, 1.025)
4.8	1.011	(0.993, 1.030)	(1.008, 1.014)	1.024	(1.007, 1.042)	(1.023, 1.026)
4.9	1.011	(0.993, 1.030)	(1.009, 1.014)	1.025	(1.008, 1.043)	(1.024, 1.027)
5.0	1.012	(0.993, 1.031)	(1.009, 1.015)	1.026	(1.008, 1.044)	(1.025, 1.028)
5.1	1.012	(0.993, 1.031)	(1.009, 1.015)	1.027	(1.009, 1.045)	(1.026, 1.029)
5.2	1.013	(0.994, 1.032)	(1.010, 1.016)	1.028	(1.010, 1.046)	(1.026, 1.029)
5.3	1.013	(0.994, 1.032)	(1.010, 1.016)	1.029	(1.011, 1.047)	(1.027, 1.030)
5.4	1.013	(0.994, 1.033)	(1.010, 1.017)	1.030	(1.011, 1.048)	(1.028, 1.031)
5.5	1.014	(0.995, 1.033)	(1.010, 1.017)	1.031	(1.012, 1.049)	(1.029, 1.032)
5.6	1.014	(0.995, 1.034)	(1.011, 1.018)	1.032	(1.013, 1.050)	(1.030, 1.033)
5.7	1.015	(0.995, 1.034)	(1.011, 1.018)	1.032	(1.014, 1.051)	(1.031, 1.034)

5.8	1.015	(0.995, 1.035)	(1.011, 1.019)	1.033	(1.015, 1.052)	(1.031, 1.035)
5.9	1.015	(0.996, 1.035)	(1.012, 1.019)	1.034	(1.015, 1.053)	(1.032, 1.036)
6.0	1.016	(0.996, 1.036)	(1.012, 1.020)	1.035	(1.016, 1.054)	(1.033, 1.037)
6.1	1.016	(0.996, 1.036)	(1.012, 1.020)	1.036	(1.017, 1.055)	(1.034, 1.038)
6.2	1.017	(0.997, 1.037)	(1.013, 1.021)	1.037	(1.018, 1.056)	(1.035, 1.039)
6.3	1.017	(0.997, 1.037)	(1.013, 1.021)	1.038	(1.019, 1.057)	(1.036, 1.040)
6.4	1.017	(0.997, 1.038)	(1.013, 1.022)	1.039	(1.019, 1.058)	(1.037, 1.041)
6.5	1.018	(0.998, 1.038)	(1.013, 1.022)	1.040	(1.020, 1.059)	(1.037, 1.042)
6.6	1.018	(0.998, 1.039)	(1.014, 1.023)	1.040	(1.021, 1.060)	(1.038, 1.043)
6.7	1.019	(0.998, 1.039)	(1.014, 1.023)	1.041	(1.022, 1.061)	(1.039, 1.044)
6.8	1.019	(0.999, 1.040)	(1.014, 1.024)	1.042	(1.023, 1.062)	(1.040, 1.045)
6.9	1.019	(0.999, 1.040)	(1.015, 1.024)	1.043	(1.024, 1.063)	(1.041, 1.045)
7.0	1.020	(0.999, 1.041)	(1.015, 1.025)	1.044	(1.024, 1.064)	(1.042, 1.046)
7.1	1.020	(1.000, 1.041)	(1.015, 1.025)	1.045	(1.025, 1.065)	(1.042, 1.047)
7.2	1.021	(1.000, 1.041)	(1.016, 1.026)	1.046	(1.026, 1.066)	(1.043, 1.048)
7.3	1.021	(1.001, 1.042)	(1.016, 1.026)	1.047	(1.027, 1.067)	(1.044, 1.049)
7.4	1.021	(1.001, 1.042)	(1.016, 1.027)	1.048	(1.028, 1.068)	(1.045, 1.050)
7.5	1.022	(1.001, 1.043)	(1.016, 1.027)	1.049	(1.029, 1.069)	(1.046, 1.051)
7.6	1.022	(1.002, 1.043)	(1.017, 1.028)	1.049	(1.030, 1.070)	(1.047, 1.052)
7.7	1.023	(1.002, 1.044)	(1.017, 1.028)	1.050	(1.030, 1.071)	(1.048, 1.053)
7.8	1.023	(1.002, 1.044)	(1.017, 1.029)	1.051	(1.031, 1.072)	(1.048, 1.054)
7.9	1.023	(1.003, 1.045)	(1.018, 1.029)	1.052	(1.032, 1.072)	(1.049, 1.055)
8.0	1.024	(1.003, 1.045)	(1.018, 1.030)	1.053	(1.033, 1.073)	(1.050, 1.056)
8.1	1.024	(1.003, 1.045)	(1.018, 1.030)	1.054	(1.034, 1.074)	(1.051, 1.057)
8.2	1.025	(1.004, 1.046)	(1.019, 1.031)	1.055	(1.035, 1.075)	(1.052, 1.058)
8.3	1.025	(1.004, 1.046)	(1.019, 1.031)	1.056	(1.036, 1.076)	(1.053, 1.059)
8.4	1.025	(1.005, 1.047)	(1.019, 1.032)	1.057	(1.037, 1.077)	(1.054, 1.060)
8.5	1.026	(1.005, 1.047)	(1.019, 1.032)	1.058	(1.037, 1.078)	(1.054, 1.061)
8.6	1.026	(1.005, 1.048)	(1.020, 1.033)	1.059	(1.038, 1.079)	(1.055, 1.062)
8.7	1.027	(1.006, 1.048)	(1.020, 1.033)	1.059	(1.039, 1.080)	(1.056, 1.063)
8.8	1.027	(1.006, 1.048)	(1.020, 1.034)	1.060	(1.040, 1.081)	(1.057, 1.064)
8.9	1.027	(1.006, 1.049)	(1.021, 1.034)	1.061	(1.041, 1.082)	(1.058, 1.065)
9.0	1.028	(1.007, 1.049)	(1.021, 1.035)	1.062	(1.042, 1.083)	(1.059, 1.066)
9.1	1.028	(1.007, 1.050)	(1.021, 1.035)	1.063	(1.043, 1.084)	(1.060, 1.067)
9.2	1.029	(1.008, 1.050)	(1.022, 1.036)	1.064	(1.044, 1.085)	(1.060, 1.068)
9.3	1.029	(1.008, 1.051)	(1.022, 1.036)	1.065	(1.045, 1.086)	(1.061, 1.069)
9.4	1.029	(1.008, 1.051)	(1.022, 1.037)	1.066	(1.045, 1.087)	(1.062, 1.069)
9.5	1.030	(1.009, 1.051)	(1.022, 1.037)	1.067	(1.046, 1.088)	(1.063, 1.070)
9.6	1.030	(1.009, 1.052)	(1.023, 1.038)	1.068	(1.047, 1.089)	(1.064, 1.071)
9.7	1.031	(1.010, 1.052)	(1.023, 1.038)	1.069	(1.048, 1.089)	(1.065, 1.072)
9.8	1.031	(1.010, 1.053)	(1.023, 1.039)	1.070	(1.049, 1.090)	(1.066, 1.073)
9.9	1.031	(1.010, 1.053)	(1.024, 1.039)	1.070	(1.050, 1.091)	(1.067, 1.074)
10.0	1.032	(1.011, 1.053)	(1.024, 1.040)	1.071	(1.051, 1.092)	(1.067, 1.075)
10.1	1.032	(1.011, 1.054)	(1.024, 1.040)	1.072	(1.052, 1.093)	(1.068, 1.076)

10.2	1.033	(1.012, 1.054)	(1.025, 1.041)	1.073	(1.053, 1.094)	(1.069, 1.077)
10.3	1.033	(1.012, 1.055)	(1.025, 1.041)	1.074	(1.054, 1.095)	(1.070, 1.078)
10.4	1.033	(1.012, 1.055)	(1.025, 1.042)	1.075	(1.054, 1.096)	(1.071, 1.079)
10.5	1.034	(1.013, 1.056)	(1.025, 1.042)	1.076	(1.055, 1.097)	(1.072, 1.080)
10.6	1.034	(1.013, 1.056)	(1.026, 1.043)	1.077	(1.056, 1.098)	(1.073, 1.081)
10.7	1.035	(1.013, 1.056)	(1.026, 1.043)	1.078	(1.057, 1.099)	(1.074, 1.082)
10.8	1.035	(1.014, 1.057)	(1.026, 1.044)	1.079	(1.058, 1.100)	(1.074, 1.083)
10.9	1.036	(1.014, 1.057)	(1.027, 1.044)	1.080	(1.059, 1.101)	(1.075, 1.084)
11.0	1.036	(1.015, 1.058)	(1.027, 1.045)	1.081	(1.060, 1.102)	(1.076, 1.085)
11.1	1.036	(1.015, 1.058)	(1.027, 1.045)	1.082	(1.061, 1.103)	(1.077, 1.086)
11.2	1.037	(1.015, 1.058)	(1.028, 1.046)	1.083	(1.062, 1.104)	(1.078, 1.087)
11.3	1.037	(1.016, 1.059)	(1.028, 1.046)	1.083	(1.063, 1.105)	(1.079, 1.088)
11.4	1.038	(1.016, 1.059)	(1.028, 1.047)	1.084	(1.064, 1.106)	(1.080, 1.089)
11.5	1.038	(1.017, 1.060)	(1.029, 1.047)	1.085	(1.064, 1.107)	(1.081, 1.090)
11.6	1.038	(1.017, 1.060)	(1.029, 1.048)	1.086	(1.065, 1.107)	(1.081, 1.091)
11.7	1.039	(1.017, 1.061)	(1.029, 1.049)	1.087	(1.066, 1.108)	(1.082, 1.092)
11.8	1.039	(1.018, 1.061)	(1.029, 1.049)	1.088	(1.067, 1.109)	(1.083, 1.093)
11.9	1.040	(1.018, 1.061)	(1.030, 1.050)	1.089	(1.068, 1.110)	(1.084, 1.094)
12.0	1.040	(1.019, 1.062)	(1.030, 1.050)	1.090	(1.069, 1.111)	(1.085, 1.095)
12.1	1.040	(1.019, 1.062)	(1.030, 1.051)	1.091	(1.070, 1.112)	(1.086, 1.096)
12.2	1.041	(1.019, 1.063)	(1.031, 1.051)	1.092	(1.071, 1.113)	(1.087, 1.097)
12.3	1.041	(1.020, 1.063)	(1.031, 1.052)	1.093	(1.072, 1.114)	(1.088, 1.098)
12.4	1.042	(1.020, 1.063)	(1.031, 1.052)	1.094	(1.073, 1.115)	(1.089, 1.099)
12.5	1.042	(1.021, 1.064)	(1.032, 1.053)	1.095	(1.074, 1.116)	(1.089, 1.100)
12.6	1.042	(1.021, 1.064)	(1.032, 1.053)	1.096	(1.075, 1.117)	(1.090, 1.101)
12.7	1.043	(1.021, 1.065)	(1.032, 1.054)	1.097	(1.076, 1.118)	(1.091, 1.102)
12.8	1.043	(1.022, 1.065)	(1.032, 1.054)	1.098	(1.077, 1.119)	(1.092, 1.103)
12.9	1.044	(1.022, 1.066)	(1.033, 1.055)	1.098	(1.077, 1.120)	(1.093, 1.104)
13.0	1.044	(1.023, 1.066)	(1.033, 1.055)	1.099	(1.078, 1.121)	(1.094, 1.105)
13.1	1.044	(1.023, 1.066)	(1.033, 1.056)	1.100	(1.079, 1.122)	(1.095, 1.106)
13.2	1.045	(1.023, 1.067)	(1.034, 1.056)	1.101	(1.080, 1.123)	(1.096, 1.107)
13.3	1.045	(1.024, 1.067)	(1.034, 1.057)	1.102	(1.081, 1.124)	(1.097, 1.108)
13.4	1.046	(1.024, 1.068)	(1.034, 1.057)	1.103	(1.082, 1.125)	(1.097, 1.109)
13.5	1.046	(1.025, 1.068)	(1.035, 1.058)	1.104	(1.083, 1.126)	(1.098, 1.110)
13.6	1.047	(1.025, 1.068)	(1.035, 1.058)	1.105	(1.084, 1.127)	(1.099, 1.111)
13.7	1.047	(1.026, 1.069)	(1.035, 1.059)	1.106	(1.085, 1.128)	(1.100, 1.112)
13.8	1.047	(1.026, 1.069)	(1.036, 1.059)	1.107	(1.086, 1.129)	(1.101, 1.113)
13.9	1.048	(1.026, 1.070)	(1.036, 1.060)	1.108	(1.087, 1.130)	(1.102, 1.114)
14.0	1.048	(1.027, 1.070)	(1.036, 1.060)	1.109	(1.088, 1.131)	(1.103, 1.115)
14.1	1.049	(1.027, 1.071)	(1.036, 1.061)	1.110	(1.089, 1.132)	(1.104, 1.116)
14.2	1.049	(1.028, 1.071)	(1.037, 1.061)	1.111	(1.090, 1.132)	(1.105, 1.117)
14.3	1.049	(1.028, 1.071)	(1.037, 1.062)	1.112	(1.091, 1.133)	(1.106, 1.118)
14.4	1.050	(1.028, 1.072)	(1.037, 1.062)	1.113	(1.092, 1.134)	(1.106, 1.119)
14.5	1.050	(1.029, 1.072)	(1.038, 1.063)	1.114	(1.093, 1.135)	(1.107, 1.120)

14.6	1.051	(1.029, 1.073)	(1.038, 1.063)	1.115	(1.093, 1.136)	(1.108, 1.121)
14.7	1.051	(1.030, 1.073)	(1.038, 1.064)	1.116	(1.094, 1.137)	(1.109, 1.122)
14.8	1.051	(1.030, 1.073)	(1.039, 1.065)	1.117	(1.095, 1.138)	(1.110, 1.123)
14.9	1.052	(1.030, 1.074)	(1.039, 1.065)	1.118	(1.096, 1.139)	(1.111, 1.124)
15.0	1.052	(1.031, 1.074)	(1.039, 1.066)	1.119	(1.097, 1.140)	(1.112, 1.125)
15.1	1.053	(1.031, 1.075)	(1.040, 1.066)	1.120	(1.098, 1.141)	(1.113, 1.126)
15.2	1.053	(1.032, 1.075)	(1.040, 1.067)	1.120	(1.099, 1.142)	(1.114, 1.127)
15.3	1.054	(1.032, 1.076)	(1.040, 1.067)	1.121	(1.100, 1.143)	(1.115, 1.128)
15.4	1.054	(1.032, 1.076)	(1.040, 1.068)	1.122	(1.101, 1.144)	(1.116, 1.129)
15.5	1.054	(1.033, 1.076)	(1.041, 1.068)	1.123	(1.102, 1.145)	(1.116, 1.130)
15.6	1.055	(1.033, 1.077)	(1.041, 1.069)	1.124	(1.103, 1.146)	(1.117, 1.131)
15.7	1.055	(1.034, 1.077)	(1.041, 1.069)	1.125	(1.104, 1.147)	(1.118, 1.132)
15.8	1.056	(1.034, 1.078)	(1.042, 1.070)	1.126	(1.105, 1.148)	(1.119, 1.133)
15.9	1.056	(1.034, 1.078)	(1.042, 1.070)	1.127	(1.106, 1.149)	(1.120, 1.135)
16.0	1.056	(1.035, 1.078)	(1.042, 1.071)	1.128	(1.107, 1.150)	(1.121, 1.136)
16.1	1.057	(1.035, 1.079)	(1.043, 1.071)	1.129	(1.108, 1.151)	(1.122, 1.137)
16.2	1.057	(1.036, 1.079)	(1.043, 1.072)	1.130	(1.109, 1.152)	(1.123, 1.138)
16.3	1.058	(1.036, 1.080)	(1.043, 1.072)	1.131	(1.110, 1.153)	(1.124, 1.139)
16.4	1.058	(1.037, 1.080)	(1.044, 1.073)	1.132	(1.111, 1.154)	(1.125, 1.140)
16.5	1.059	(1.037, 1.081)	(1.044, 1.073)	1.133	(1.112, 1.155)	(1.126, 1.141)
16.6	1.059	(1.037, 1.081)	(1.044, 1.074)	1.134	(1.113, 1.156)	(1.126, 1.142)
16.7	1.059	(1.038, 1.081)	(1.044, 1.074)	1.135	(1.114, 1.157)	(1.127, 1.143)
16.8	1.060	(1.038, 1.082)	(1.045, 1.075)	1.136	(1.115, 1.158)	(1.128, 1.144)
16.9	1.060	(1.039, 1.082)	(1.045, 1.075)	1.137	(1.115, 1.159)	(1.129, 1.145)
17.0	1.061	(1.039, 1.083)	(1.045, 1.076)	1.138	(1.116, 1.160)	(1.130, 1.146)
17.1	1.061	(1.039, 1.083)	(1.046, 1.077)	1.139	(1.117, 1.161)	(1.131, 1.147)
17.2	1.061	(1.040, 1.083)	(1.046, 1.077)	1.140	(1.118, 1.162)	(1.132, 1.148)
17.3	1.062	(1.040, 1.084)	(1.046, 1.078)	1.141	(1.119, 1.163)	(1.133, 1.149)
17.4	1.062	(1.041, 1.084)	(1.047, 1.078)	1.142	(1.120, 1.164)	(1.134, 1.150)
17.5	1.063	(1.041, 1.085)	(1.047, 1.079)	1.143	(1.121, 1.165)	(1.135, 1.151)
17.6	1.063	(1.042, 1.085)	(1.047, 1.079)	1.144	(1.122, 1.166)	(1.136, 1.152)
17.7	1.064	(1.042, 1.086)	(1.048, 1.080)	1.145	(1.123, 1.167)	(1.137, 1.153)
17.8	1.064	(1.042, 1.086)	(1.048, 1.080)	1.146	(1.124, 1.168)	(1.138, 1.154)
17.9	1.064	(1.043, 1.086)	(1.048, 1.081)	1.147	(1.125, 1.169)	(1.138, 1.155)
18.0	1.065	(1.043, 1.087)	(1.049, 1.081)	1.148	(1.126, 1.170)	(1.139, 1.156)
18.1	1.065	(1.044, 1.087)	(1.049, 1.082)	1.149	(1.127, 1.171)	(1.140, 1.157)
18.2	1.066	(1.044, 1.088)	(1.049, 1.082)	1.150	(1.128, 1.172)	(1.141, 1.158)
18.3	1.066	(1.044, 1.088)	(1.049, 1.083)	1.151	(1.129, 1.173)	(1.142, 1.159)
18.4	1.066	(1.045, 1.088)	(1.050, 1.083)	1.152	(1.130, 1.174)	(1.143, 1.161)
18.5	1.067	(1.045, 1.089)	(1.050, 1.084)	1.153	(1.131, 1.175)	(1.144, 1.162)
18.6	1.067	(1.046, 1.089)	(1.050, 1.084)	1.154	(1.132, 1.176)	(1.145, 1.163)
18.7	1.068	(1.046, 1.090)	(1.051, 1.085)	1.155	(1.133, 1.177)	(1.146, 1.164)
18.8	1.068	(1.046, 1.090)	(1.051, 1.086)	1.156	(1.134, 1.178)	(1.147, 1.165)
18.9	1.069	(1.047, 1.091)	(1.051, 1.086)	1.157	(1.135, 1.179)	(1.148, 1.166)

19.0	1.069	(1.047, 1.091)	(1.052, 1.087)	1.158	(1.136, 1.180)	(1.149, 1.167)
19.1	1.069	(1.048, 1.091)	(1.052, 1.087)	1.159	(1.137, 1.181)	(1.150, 1.168)
19.2	1.070	(1.048, 1.092)	(1.052, 1.088)	1.160	(1.138, 1.182)	(1.151, 1.169)
19.3	1.070	(1.049, 1.092)	(1.053, 1.088)	1.161	(1.139, 1.183)	(1.152, 1.170)
19.4	1.071	(1.049, 1.093)	(1.053, 1.089)	1.162	(1.140, 1.184)	(1.152, 1.171)
19.5	1.071	(1.049, 1.093)	(1.053, 1.089)	1.163	(1.141, 1.185)	(1.153, 1.172)
19.6	1.071	(1.050, 1.094)	(1.053, 1.090)	1.164	(1.142, 1.186)	(1.154, 1.173)
19.7	1.072	(1.050, 1.094)	(1.054, 1.090)	1.165	(1.143, 1.187)	(1.155, 1.174)
19.8	1.072	(1.051, 1.094)	(1.054, 1.091)	1.166	(1.144, 1.188)	(1.156, 1.175)
19.9	1.073	(1.051, 1.095)	(1.054, 1.091)	1.167	(1.145, 1.189)	(1.157, 1.176)
20.0	1.073	(1.052, 1.095)	(1.055, 1.092)	1.168	(1.146, 1.190)	(1.158, 1.178)
20.1	1.074	(1.052, 1.096)	(1.055, 1.092)	1.169	(1.147, 1.191)	(1.159, 1.179)
20.2	1.074	(1.052, 1.096)	(1.055, 1.093)	1.170	(1.148, 1.192)	(1.160, 1.180)
20.3	1.074	(1.053, 1.097)	(1.056, 1.093)	1.171	(1.149, 1.193)	(1.161, 1.181)
20.4	1.075	(1.053, 1.097)	(1.056, 1.094)	1.172	(1.150, 1.194)	(1.162, 1.182)
20.5	1.075	(1.054, 1.097)	(1.056, 1.095)	1.173	(1.151, 1.195)	(1.163, 1.183)
20.6	1.076	(1.054, 1.098)	(1.057, 1.095)	1.174	(1.152, 1.196)	(1.164, 1.184)
20.7	1.076	(1.054, 1.098)	(1.057, 1.096)	1.175	(1.153, 1.197)	(1.165, 1.185)
20.8	1.077	(1.055, 1.099)	(1.057, 1.096)	1.176	(1.154, 1.198)	(1.166, 1.186)
20.9	1.077	(1.055, 1.099)	(1.058, 1.097)	1.177	(1.155, 1.199)	(1.167, 1.187)
21.0	1.077	(1.056, 1.099)	(1.058, 1.097)	1.178	(1.156, 1.200)	(1.168, 1.188)
21.1	1.078	(1.056, 1.100)	(1.058, 1.098)	1.179	(1.157, 1.201)	(1.169, 1.189)
21.2	1.078	(1.057, 1.100)	(1.058, 1.098)	1.180	(1.158, 1.202)	(1.170, 1.190)
21.3	1.079	(1.057, 1.101)	(1.059, 1.099)	1.181	(1.159, 1.203)	(1.170, 1.192)
21.4	1.079	(1.057, 1.101)	(1.059, 1.099)	1.182	(1.160, 1.204)	(1.171, 1.193)
21.5	1.079	(1.058, 1.102)	(1.059, 1.100)	1.183	(1.161, 1.205)	(1.172, 1.194)
21.6	1.080	(1.058, 1.102)	(1.060, 1.100)	1.184	(1.162, 1.206)	(1.173, 1.195)
21.7	1.080	(1.059, 1.102)	(1.060, 1.101)	1.185	(1.163, 1.208)	(1.174, 1.196)
21.8	1.081	(1.059, 1.103)	(1.060, 1.102)	1.186	(1.164, 1.209)	(1.175, 1.197)
21.9	1.081	(1.059, 1.103)	(1.061, 1.102)	1.187	(1.165, 1.210)	(1.176, 1.198)
22.0	1.082	(1.060, 1.104)	(1.061, 1.103)	1.188	(1.166, 1.211)	(1.177, 1.199)
22.1	1.082	(1.060, 1.104)	(1.061, 1.103)	1.189	(1.167, 1.212)	(1.178, 1.200)
22.2	1.082	(1.061, 1.105)	(1.062, 1.104)	1.190	(1.168, 1.213)	(1.179, 1.201)
22.3	1.083	(1.061, 1.105)	(1.062, 1.104)	1.191	(1.169, 1.214)	(1.180, 1.202)
22.4	1.083	(1.062, 1.105)	(1.062, 1.105)	1.192	(1.170, 1.215)	(1.181, 1.203)
22.5	1.084	(1.062, 1.106)	(1.063, 1.105)	1.193	(1.171, 1.216)	(1.182, 1.205)
22.6	1.084	(1.062, 1.106)	(1.063, 1.106)	1.194	(1.172, 1.217)	(1.183, 1.206)
22.7	1.085	(1.063, 1.107)	(1.063, 1.106)	1.195	(1.173, 1.218)	(1.184, 1.207)
22.8	1.085	(1.063, 1.107)	(1.064, 1.107)	1.196	(1.174, 1.219)	(1.185, 1.208)
22.9	1.085	(1.064, 1.108)	(1.064, 1.107)	1.197	(1.175, 1.220)	(1.186, 1.209)
23.0 ^a	1.086	(1.064, 1.108)	(1.064, 1.108)	1.198	(1.176, 1.221)	(1.187, 1.210)
23.1	1.086	(1.064, 1.109)	---	1.199	(1.177, 1.222)	(1.188, 1.211)
23.2	1.087	(1.065, 1.109)	---	1.200	(1.178, 1.223)	(1.189, 1.212)
23.3	1.087	(1.065, 1.110)	---	1.201	(1.179, 1.224)	(1.190, 1.213)

23.4	1.088	(1.065, 1.110)	---	1.203	(1.180, 1.225)	(1.191, 1.214)
23.5	1.088	(1.066, 1.111)	---	1.204	(1.181, 1.226)	(1.192, 1.216)
23.6	1.088	(1.066, 1.111)	---	1.205	(1.182, 1.227)	(1.193, 1.217)
23.7	1.089	(1.066, 1.112)	---	1.206	(1.183, 1.228)	(1.194, 1.218)
23.8	1.089	(1.067, 1.112)	---	1.207	(1.184, 1.229)	(1.195, 1.219)
23.9	1.090	(1.067, 1.113)	---	1.208	(1.185, 1.230)	(1.196, 1.220)
24.0	1.090	(1.067, 1.113)	---	1.209	(1.186, 1.232)	(1.197, 1.221)
24.1	1.091	(1.068, 1.114)	---	1.210	(1.187, 1.233)	(1.198, 1.222)
24.2	1.091	(1.068, 1.115)	---	1.211	(1.188, 1.234)	(1.199, 1.223)
24.3	1.091	(1.068, 1.115)	---	1.212	(1.190, 1.235)	(1.199, 1.224)
24.4	1.092	(1.069, 1.116)	---	1.213	(1.191, 1.236)	(1.200, 1.226)
24.5	1.092	(1.069, 1.116)	---	1.214	(1.192, 1.237)	(1.201, 1.227)
24.6	1.093	(1.069, 1.117)	---	1.215	(1.193, 1.238)	(1.202, 1.228)
24.7	1.093	(1.070, 1.117)	---	1.216	(1.194, 1.239)	(1.203, 1.229)
24.8	1.094	(1.070, 1.118)	---	1.217	(1.195, 1.240)	(1.204, 1.230)
24.9	1.094	(1.070, 1.118)	---	1.218	(1.196, 1.241)	(1.205, 1.231)
25.0	1.094	(1.070, 1.119)	---	1.219	(1.197, 1.242)	(1.206, 1.232)
25.1	1.095	(1.071, 1.119)	---	1.220	(1.198, 1.243)	(1.207, 1.233)
25.2	1.095	(1.071, 1.120)	---	1.221	(1.199, 1.244)	(1.208, 1.234)
25.3	1.096	(1.071, 1.121)	---	1.222	(1.200, 1.245)	(1.209, 1.236)
25.4	1.096	(1.072, 1.121)	---	1.223	(1.201, 1.246)	(1.210, 1.237)
25.5	1.097	(1.072, 1.122)	---	1.224	(1.202, 1.247)	(1.211, 1.238)
25.6	1.097	(1.072, 1.122)	---	1.226	(1.203, 1.248)	(1.212, 1.239)
25.7	1.097	(1.073, 1.123)	---	1.227	(1.204, 1.250)	(1.213, 1.240)
25.8	1.098	(1.073, 1.123)	---	1.228	(1.205, 1.251)	(1.214, 1.241)
25.9	1.098	(1.073, 1.124)	---	1.229	(1.206, 1.252)	(1.215, 1.242)
26.0	1.099	(1.074, 1.124)	---	1.230	(1.207, 1.253)	(1.216, 1.243)
26.1	1.099	(1.074, 1.125)	---	1.231	(1.208, 1.254)	(1.217, 1.245)
26.2	1.100	(1.074, 1.125)	---	1.232	(1.209, 1.255)	(1.218, 1.246)
26.3	1.100	(1.075, 1.126)	---	1.233	(1.210, 1.256)	(1.219, 1.247)
26.4	1.100	(1.075, 1.127)	---	1.234	(1.211, 1.257)	(1.220, 1.248)
26.5	1.101	(1.075, 1.127)	---	1.235	(1.212, 1.258)	(1.221, 1.249)
26.6	1.101	(1.076, 1.128)	---	1.236	(1.213, 1.259)	(1.222, 1.250)
26.7	1.102	(1.076, 1.128)	---	1.237	(1.215, 1.260)	(1.223, 1.251)
26.8	1.102	(1.076, 1.129)	---	1.238	(1.216, 1.261)	(1.224, 1.253)
26.9	1.103	(1.077, 1.129)	---	1.239	(1.217, 1.262)	(1.225, 1.254)
27.0	1.103	(1.077, 1.130)	---	1.240	(1.218, 1.264)	(1.226, 1.255)
27.1	1.103	(1.077, 1.130)	---	1.241	(1.219, 1.265)	(1.227, 1.256)
27.2	1.104	(1.077, 1.131)	---	1.243	(1.220, 1.266)	(1.228, 1.257)
27.3	1.104	(1.078, 1.132)	---	1.244	(1.221, 1.267)	(1.229, 1.258)
27.4	1.105	(1.078, 1.132)	---	1.245	(1.222, 1.268)	(1.230, 1.259)
27.5	1.105	(1.078, 1.133)	---	1.246	(1.223, 1.269)	(1.231, 1.260)
27.6	1.106	(1.079, 1.133)	---	1.247	(1.224, 1.270)	(1.232, 1.262)
27.7	1.106	(1.079, 1.134)	---	1.248	(1.225, 1.271)	(1.233, 1.263)

27.8	1.106	(1.079, 1.134)	---	1.249	(1.226, 1.272)	(1.234, 1.264)
27.9	1.107	(1.080, 1.135)	---	1.250	(1.227, 1.273)	(1.235, 1.265)
28.0	1.107	(1.080, 1.135)	---	1.251	(1.228, 1.274)	(1.236, 1.266)
28.1	1.108	(1.080, 1.136)	---	1.252	(1.229, 1.275)	(1.237, 1.267)
28.2	1.108	(1.081, 1.136)	---	1.253	(1.230, 1.277)	(1.238, 1.269)
28.3	1.109	(1.081, 1.137)	---	1.254	(1.232, 1.278)	(1.239, 1.270)
28.4	1.109	(1.081, 1.138)	---	1.255	(1.233, 1.279)	(1.240, 1.271)
28.5	1.110	(1.082, 1.138)	---	1.257	(1.234, 1.280)	(1.241, 1.272)
28.6	1.110	(1.082, 1.139)	---	1.258	(1.235, 1.281)	(1.242, 1.273)
28.7	1.110	(1.082, 1.139)	---	1.259	(1.236, 1.282)	(1.243, 1.274)
28.8	1.111	(1.083, 1.140)	---	1.260	(1.237, 1.283)	(1.244, 1.275)
28.9	1.111	(1.083, 1.140)	---	1.261	(1.238, 1.284)	(1.245, 1.277)
29.0	1.112	(1.083, 1.141)	---	1.262	(1.239, 1.285)	(1.246, 1.278)
29.1	1.112	(1.084, 1.142)	---	1.263	(1.240, 1.286)	(1.247, 1.279)
29.2	1.113	(1.084, 1.142)	---	1.264	(1.241, 1.288)	(1.248, 1.280)
29.3	1.113	(1.084, 1.143)	---	1.265	(1.242, 1.289)	(1.249, 1.281)
29.4	1.113	(1.084, 1.143)	---	1.266	(1.243, 1.290)	(1.250, 1.282)
29.5	1.114	(1.085, 1.144)	---	1.267	(1.244, 1.291)	(1.251, 1.284)
29.6	1.114	(1.085, 1.144)	---	1.269	(1.245, 1.292)	(1.252, 1.285)
29.7	1.115	(1.085, 1.145)	---	1.270	(1.247, 1.293)	(1.254, 1.286)
29.8	1.115	(1.086, 1.145)	---	1.271	(1.248, 1.294)	(1.255, 1.287)
29.9	1.116	(1.086, 1.146)	---	1.272	(1.249, 1.295)	(1.256, 1.288)
30.0	1.116	(1.086, 1.147)	---	1.273	(1.250, 1.296)	(1.257, 1.289)
30.1	1.117	(1.087, 1.147)	---	1.274	(1.251, 1.298)	(1.258, 1.291)
30.2	1.117	(1.087, 1.148)	---	1.275	(1.252, 1.299)	(1.259, 1.292)
30.3	1.117	(1.087, 1.148)	---	1.276	(1.253, 1.300)	(1.260, 1.293)
30.4	1.118	(1.088, 1.149)	---	1.277	(1.254, 1.301)	(1.261, 1.294)
30.5	1.118	(1.088, 1.149)	---	1.278	(1.255, 1.302)	(1.262, 1.295)
30.6	1.119	(1.088, 1.150)	---	1.279	(1.256, 1.303)	(1.263, 1.296)
30.7	1.119	(1.089, 1.150)	---	1.281	(1.257, 1.304)	(1.264, 1.298)
30.8	1.120	(1.089, 1.151)	---	1.282	(1.259, 1.305)	(1.265, 1.299)
30.9	1.120	(1.089, 1.152)	---	1.283	(1.260, 1.306)	(1.266, 1.300)
31.0	1.120	(1.090, 1.152)	---	1.284	(1.261, 1.308)	(1.267, 1.301)
31.1	1.121	(1.090, 1.153)	---	1.285	(1.262, 1.309)	(1.268, 1.302)
31.2	1.121	(1.090, 1.153)	---	1.286	(1.263, 1.310)	(1.269, 1.304)
31.3	1.122	(1.091, 1.154)	---	1.287	(1.264, 1.311)	(1.270, 1.305)
31.4	1.122	(1.091, 1.154)	---	1.288	(1.265, 1.312)	(1.271, 1.306)
31.5	1.123	(1.091, 1.155)	---	1.289	(1.266, 1.313)	(1.272, 1.307)
31.6	1.123	(1.092, 1.156)	---	1.291	(1.267, 1.314)	(1.273, 1.308)
31.7	1.124	(1.092, 1.156)	---	1.292	(1.268, 1.315)	(1.274, 1.309)
31.8	1.124	(1.092, 1.157)	---	1.293	(1.269, 1.317)	(1.275, 1.311)
31.9	1.124	(1.093, 1.157)	---	1.294	(1.271, 1.318)	(1.276, 1.312)
32.0	1.125	(1.093, 1.158)	---	1.295	(1.272, 1.319)	(1.277, 1.313)
32.1	1.125	(1.093, 1.158)	---	1.296	(1.273, 1.320)	(1.278, 1.314)

32.2	1.126	(1.094, 1.159)	---	1.297	(1.274, 1.321)	(1.279, 1.315)
32.3	1.126	(1.094, 1.159)	---	1.298	(1.275, 1.322)	(1.280, 1.317)
32.4	1.127	(1.094, 1.160)	---	1.300	(1.276, 1.323)	(1.281, 1.318)
32.5	1.127	(1.094, 1.161)	---	1.301	(1.277, 1.324)	(1.282, 1.319)
32.6	1.128	(1.095, 1.161)	---	1.302	(1.278, 1.326)	(1.284, 1.320)
32.7	1.128	(1.095, 1.162)	---	1.303	(1.279, 1.327)	(1.285, 1.321)
32.8	1.128	(1.095, 1.162)	---	1.304	(1.281, 1.328)	(1.286, 1.323)
32.9	1.129	(1.096, 1.163)	---	1.305	(1.282, 1.329)	(1.287, 1.324)
33.0	1.129	(1.096, 1.163)	---	1.306	(1.283, 1.330)	(1.288, 1.325)
33.1	1.130	(1.096, 1.164)	---	1.307	(1.284, 1.331)	(1.289, 1.326)
33.2	1.130	(1.097, 1.165)	---	1.308	(1.285, 1.332)	(1.290, 1.327)
33.3	1.131	(1.097, 1.165)	---	1.310	(1.286, 1.334)	(1.291, 1.329)
33.4	1.131	(1.097, 1.166)	---	1.311	(1.287, 1.335)	(1.292, 1.330)
33.5	1.132	(1.098, 1.166)	---	1.312	(1.288, 1.336)	(1.293, 1.331)
33.6	1.132	(1.098, 1.167)	---	1.313	(1.289, 1.337)	(1.294, 1.332)
33.7	1.132	(1.098, 1.167)	---	1.314	(1.291, 1.338)	(1.295, 1.333)
33.8	1.133	(1.099, 1.168)	---	1.315	(1.292, 1.339)	(1.296, 1.335)
33.9	1.133	(1.099, 1.169)	---	1.316	(1.293, 1.340)	(1.297, 1.336)
34.0	1.134	(1.099, 1.169)	---	1.318	(1.294, 1.342)	(1.298, 1.337)
34.1	1.134	(1.100, 1.170)	---	1.319	(1.295, 1.343)	(1.299, 1.338)
34.2	1.135	(1.100, 1.170)	---	1.320	(1.296, 1.344)	(1.300, 1.340)
34.3	1.135	(1.100, 1.171)	---	1.321	(1.297, 1.345)	(1.301, 1.341)
34.4	1.136	(1.101, 1.171)	---	1.322	(1.298, 1.346)	(1.302, 1.342)
34.5	1.136	(1.101, 1.172)	---	1.323	(1.300, 1.347)	(1.304, 1.343)
34.6	1.136	(1.101, 1.173)	---	1.324	(1.301, 1.349)	(1.305, 1.344)
34.7	1.137	(1.102, 1.173)	---	1.326	(1.302, 1.350)	(1.306, 1.346)
34.8	1.137	(1.102, 1.174)	---	1.327	(1.303, 1.351)	(1.307, 1.347)
34.9	1.138	(1.102, 1.174)	---	1.328	(1.304, 1.352)	(1.308, 1.348)
35.0	1.138	(1.103, 1.175)	---	1.329	(1.305, 1.353)	(1.309, 1.349)
35.1	1.139	(1.103, 1.175)	---	1.330	(1.306, 1.354)	(1.310, 1.351)
35.2	1.139	(1.103, 1.176)	---	1.331	(1.307, 1.355)	(1.311, 1.352)
35.3	1.140	(1.104, 1.177)	---	1.332	(1.309, 1.357)	(1.312, 1.353)
35.4	1.140	(1.104, 1.177)	---	1.334	(1.310, 1.358)	(1.313, 1.354)
35.5	1.140	(1.104, 1.178)	---	1.335	(1.311, 1.359)	(1.314, 1.355)
35.6	1.141	(1.105, 1.178)	---	1.336	(1.312, 1.360)	(1.315, 1.357)
35.7	1.141	(1.105, 1.179)	---	1.337	(1.313, 1.361)	(1.316, 1.358)
35.8	1.142	(1.105, 1.179)	---	1.338	(1.314, 1.362)	(1.317, 1.359)
35.9	1.142	(1.106, 1.180)	---	1.339	(1.315, 1.364)	(1.319, 1.360)
36.0	1.143	(1.106, 1.181)	---	1.340	(1.317, 1.365)	(1.320, 1.362)
36.1	1.143	(1.106, 1.181)	---	1.342	(1.318, 1.366)	(1.321, 1.363)
36.2	1.144	(1.107, 1.182)	---	1.343	(1.319, 1.367)	(1.322, 1.364)
36.3	1.144	(1.107, 1.182)	---	1.344	(1.320, 1.368)	(1.323, 1.365)
36.4	1.144	(1.107, 1.183)	---	1.345	(1.321, 1.369)	(1.324, 1.367)
36.5	1.145	(1.108, 1.184)	---	1.346	(1.322, 1.371)	(1.325, 1.368)

36.6	1.145	(1.108, 1.184)	---	1.347	(1.323, 1.372)	(1.326, 1.369)
36.7	1.146	(1.108, 1.185)	---	1.349	(1.325, 1.373)	(1.327, 1.370)
36.8	1.146	(1.109, 1.185)	---	1.350	(1.326, 1.374)	(1.328, 1.372)
36.9	1.147	(1.109, 1.186)	---	1.351	(1.327, 1.375)	(1.329, 1.373)
37.0	1.147	(1.109, 1.186)	---	1.352	(1.328, 1.377)	(1.330, 1.374)
37.1	1.148	(1.110, 1.187)	---	1.353	(1.329, 1.378)	(1.332, 1.375)
37.2	1.148	(1.110, 1.188)	---	1.354	(1.330, 1.379)	(1.333, 1.377)
37.3	1.148	(1.110, 1.188)	---	1.356	(1.331, 1.380)	(1.334, 1.378)
37.4	1.149	(1.110, 1.189)	---	1.357	(1.333, 1.381)	(1.335, 1.379)
37.5	1.149	(1.111, 1.189)	---	1.358	(1.334, 1.382)	(1.336, 1.380)
37.6	1.150	(1.111, 1.190)	---	1.359	(1.335, 1.384)	(1.337, 1.382)
37.7	1.150	(1.111, 1.190)	---	1.360	(1.336, 1.385)	(1.338, 1.383)
37.8	1.151	(1.112, 1.191)	---	1.361	(1.337, 1.386)	(1.339, 1.384)
37.9	1.151	(1.112, 1.192)	---	1.363	(1.338, 1.387)	(1.340, 1.385)
38.0	1.152	(1.112, 1.192)	---	1.364	(1.340, 1.388)	(1.341, 1.387)
38.1	1.152	(1.113, 1.193)	---	1.365	(1.341, 1.390)	(1.342, 1.388)
38.2	1.153	(1.113, 1.193)	---	1.366	(1.342, 1.391)	(1.344, 1.389)
38.3	1.153	(1.113, 1.194)	---	1.367	(1.343, 1.392)	(1.345, 1.390)
38.4	1.153	(1.114, 1.195)	---	1.368	(1.344, 1.393)	(1.346, 1.392)
38.5	1.154	(1.114, 1.195)	---	1.370	(1.345, 1.394)	(1.347, 1.393)
38.6	1.154	(1.114, 1.196)	---	1.371	(1.347, 1.396)	(1.348, 1.394)
38.7	1.155	(1.115, 1.196)	---	1.372	(1.348, 1.397)	(1.349, 1.395)
38.8	1.155	(1.115, 1.197)	---	1.373	(1.349, 1.398)	(1.350, 1.397)
38.9	1.156	(1.115, 1.197)	---	1.374	(1.350, 1.399)	(1.351, 1.398)
39.0	1.156	(1.116, 1.198)	---	1.376	(1.351, 1.400)	(1.352, 1.399)
39.1	1.157	(1.116, 1.199)	---	1.377	(1.352, 1.402)	(1.353, 1.400)
39.2	1.157	(1.116, 1.199)	---	1.378	(1.354, 1.403)	(1.355, 1.402)
39.3	1.158	(1.117, 1.200)	---	1.379	(1.355, 1.404)	(1.356, 1.403)
39.4	1.158	(1.117, 1.200)	---	1.380	(1.356, 1.405)	(1.357, 1.404)
39.5	1.158	(1.117, 1.201)	---	1.381	(1.357, 1.406)	(1.358, 1.406)
39.6	1.159	(1.118, 1.202)	---	1.383	(1.358, 1.408)	(1.359, 1.407)
39.7	1.159	(1.118, 1.202)	---	1.384	(1.359, 1.409)	(1.360, 1.408)
39.8	1.160	(1.118, 1.203)	---	1.385	(1.361, 1.410)	(1.361, 1.409)
39.9	1.160	(1.119, 1.203)	---	1.386	(1.362, 1.411)	(1.362, 1.411)
40.0	1.161	(1.119, 1.204)	---	1.387	(1.363, 1.412)	(1.363, 1.412)
40.1	1.161	(1.119, 1.205)	---	1.389	(1.364, 1.414)	(1.364, 1.413)
40.2	1.162	(1.120, 1.205)	---	1.390	(1.365, 1.415)	(1.366, 1.415)
40.3	1.162	(1.120, 1.206)	---	1.391	(1.367, 1.416)	(1.367, 1.416)
40.4	1.163	(1.120, 1.206)	---	1.392	(1.368, 1.417)	(1.368, 1.417)
40.5	1.163	(1.121, 1.207)	---	1.393	(1.369, 1.418)	(1.369, 1.418)
40.6^b	1.163	(1.121, 1.207)	---	1.395	(1.370, 1.420)	(1.370, 1.420)

^aCesaroni et al. 2013 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

^bYin et al. 2017 mean annual concentration, above which the hybrid and standard 95% CIs are equal.

Note: HR calculations are anchored to 2.0 µg/m³, such that the increment used to calculate HRs at each mean annual PM_{2.5} concentration is equivalent to the mean concentration minus 2.0. If you standardize the HR at each mean concentration to a 10

$\mu\text{g}/\text{m}^3$ increase, as is done in most long-term PM_{2.5} exposure and mortality epidemiologic studies, the HR is equal to standardized HR reported in the respective study for all hypothetical mean annual PM_{2.5} concentrations.

Table S3. Standard error adjustment factors for hypothetical concentration distributions with mean annual PM_{2.5} concentrations ranging from the counterfactual (2.0 µg/m³) to the mean reported in each study at 0.1 µg/m³ increments.

PM_{2.5} Concentrations	Pinault et al. (2017)	Di et al. (2017)	Hart et al. (2015)	Turner et al. (2016)	Cessaroni et al. (2013)	Yin et al. (2017)
2.0	6.41	10.35	11.47	12.16	24.63	48.89
2.1	5.90	9.53	10.56	11.19	22.67	44.98
2.2	5.46	8.82	9.77	10.36	20.99	41.62
2.3	5.07	8.20	9.09	9.64	19.53	38.71
2.4	4.74	7.67	8.50	9.01	18.25	36.16
2.5	4.45	7.19	7.97	8.45	17.13	33.92
2.6	4.18	6.77	7.50	7.96	16.13	31.92
2.7	3.95	6.39	7.09	7.51	15.23	30.13
2.8	3.74	6.05	6.71	7.11	14.42	28.52
2.9	3.55	5.75	6.37	6.75	13.69	27.07
3.0	3.37	5.47	6.06	6.43	13.03	25.75
3.1	3.22	5.21	5.78	6.13	12.42	24.54
3.2	3.07	4.98	5.52	5.85	11.87	23.44
3.3	2.94	4.76	5.28	5.60	11.36	22.43
3.4	2.82	4.57	5.06	5.37	10.89	21.49
3.5	2.70	4.38	4.86	5.15	10.45	20.62
3.6	2.60	4.21	4.67	4.95	10.05	19.82
3.7	2.50	4.06	4.50	4.77	9.67	19.08
3.8	2.41	3.91	4.34	4.60	9.32	18.38
3.9	2.32	3.77	4.18	4.43	9.00	17.73
4.0	2.24	3.64	4.04	4.28	8.69	17.12
4.1	2.17	3.52	3.91	4.14	8.40	16.55
4.2	2.10	3.41	3.78	4.01	8.13	16.02
4.3	2.03	3.30	3.66	3.88	7.88	15.51
4.4	1.97	3.20	3.55	3.77	7.64	15.04
4.5	1.91	3.11	3.45	3.65	7.41	14.59
4.6	1.86	3.02	3.35	3.55	7.20	14.17
4.7	1.80	2.93	3.25	3.45	7.00	13.76
4.8	1.75	2.85	3.16	3.35	6.81	13.38
4.9	1.71	2.77	3.08	3.26	6.62	13.02
5.0	1.66	2.70	3.00	3.18	6.45	12.68
5.1	1.62	2.63	2.92	3.10	6.28	12.35
5.2	1.58	2.56	2.85	3.02	6.13	12.04
5.3	1.54	2.50	2.78	2.94	5.98	11.74
5.4	1.50	2.44	2.71	2.87	5.83	11.45
5.5	1.46	2.38	2.65	2.80	5.69	11.18
5.6	1.43	2.33	2.58	2.74	5.56	10.92
5.7	1.40	2.28	2.53	2.68	5.44	10.67
5.8	1.37	2.23	2.47	2.62	5.32	10.44

5.9	1.34	2.18	2.42	2.56	5.20	10.21
6.0	1.31	2.13	2.36	2.51	5.09	9.99
6.1	1.28	2.09	2.31	2.45	4.98	9.78
6.2	1.25	2.04	2.27	2.40	4.88	9.57
6.3	1.23	2.00	2.22	2.35	4.78	9.38
6.4	1.20	1.96	2.18	2.31	4.69	9.19
6.5	1.18	1.92	2.13	2.26	4.60	9.01
6.6	1.16	1.89	2.09	2.22	4.51	8.84
6.7	1.13	1.85	2.05	2.18	4.42	8.67
6.8	1.11	1.82	2.02	2.14	4.34	8.50
6.9	1.09	1.78	1.98	2.10	4.26	8.35
7.0	1.07	1.75	1.94	2.06	4.19	8.20
7.1	1.05	1.72	1.91	2.02	4.11	8.05
7.2	1.04	1.69	1.88	1.99	4.04	7.91
7.3	1.02	1.66	1.84	1.95	3.97	7.77
7.4	1.00	1.63	1.81	1.92	3.90	7.64
7.5	--	1.60	1.78	1.89	3.84	7.51
7.6	--	1.58	1.75	1.86	3.77	7.39
7.7	--	1.55	1.72	1.83	3.71	7.27
7.8	--	1.53	1.70	1.80	3.65	7.15
7.9	--	1.50	1.67	1.77	3.60	7.04
8.0	--	1.48	1.64	1.74	3.54	6.93
8.1	--	1.46	1.62	1.72	3.49	6.82
8.2	--	1.44	1.59	1.69	3.43	6.71
8.3	--	1.41	1.57	1.66	3.38	6.61
8.4	--	1.39	1.55	1.64	3.33	6.52
8.5	--	1.37	1.52	1.62	3.28	6.42
8.6	--	1.35	1.50	1.59	3.24	6.33
8.7	--	1.33	1.48	1.57	3.19	6.24
8.8	--	1.31	1.46	1.55	3.15	6.15
8.9	--	1.30	1.44	1.53	3.10	6.06
9.0	--	1.28	1.42	1.51	3.06	5.98
9.1	--	1.26	1.40	1.49	3.02	5.90
9.2	--	1.24	1.38	1.47	2.98	5.82
9.3	--	1.23	1.36	1.45	2.94	5.74
9.4	--	1.21	1.35	1.43	2.90	5.67
9.5	--	1.20	1.33	1.41	2.86	5.59
9.6	--	1.18	1.31	1.39	2.83	5.52
9.7	--	1.17	1.30	1.37	2.79	5.45
9.8	--	1.15	1.28	1.36	2.76	5.38
9.9	--	1.14	1.26	1.34	2.72	5.31
10.0	--	1.12	1.25	1.32	2.69	5.25
10.1	--	1.11	1.23	1.31	2.66	5.19
10.2	--	1.10	1.22	1.29	2.63	5.12

10.3	--	1.08	1.20	1.28	2.60	5.06
10.4	--	1.07	1.19	1.26	2.56	5.00
10.5	--	1.06	1.18	1.25	2.54	4.94
10.6	--	1.05	1.16	1.23	2.51	4.89
10.7	--	1.03	1.15	1.22	2.48	4.83
10.8	--	1.02	1.14	1.20	2.45	4.78
10.9	--	1.01	1.12	1.19	2.42	4.72
11.0	--	1.00	1.11	1.18	2.40	4.67
11.1	--	--	1.10	1.17	2.37	4.62
11.2	--	--	1.09	1.15	2.34	4.57
11.3	--	--	1.08	1.14	2.32	4.52
11.4	--	--	1.06	1.13	2.29	4.47
11.5	--	--	1.05	1.12	2.27	4.42
11.6	--	--	1.04	1.10	2.25	4.38
11.7	--	--	1.03	1.09	2.22	4.33
11.8	--	--	1.02	1.08	2.20	4.29
11.9	--	--	1.01	1.07	2.18	4.24
12.0	--	--	1.00	1.06	2.16	4.20
12.1	--	--	--	1.05	2.14	4.16
12.2	--	--	--	1.04	2.11	4.12
12.3	--	--	--	1.03	2.09	4.08
12.4	--	--	--	1.02	2.07	4.04
12.5	--	--	--	1.01	2.05	4.00
12.6	--	--	--	1.00	2.03	3.96
12.7	--	--	--	--	2.01	3.92
12.8	--	--	--	--	2.00	3.88
12.9	--	--	--	--	1.98	3.85
13.0	--	--	--	--	1.96	3.81
13.1	--	--	--	--	1.94	3.78
13.2	--	--	--	--	1.92	3.74
13.3	--	--	--	--	1.91	3.71
13.4	--	--	--	--	1.89	3.68
13.5	--	--	--	--	1.87	3.64
13.6	--	--	--	--	1.86	3.61
13.7	--	--	--	--	1.84	3.58
13.8	--	--	--	--	1.82	3.55
13.9	--	--	--	--	1.81	3.52
14.0	--	--	--	--	1.79	3.49
14.1	--	--	--	--	1.78	3.46
14.2	--	--	--	--	1.76	3.43
14.3	--	--	--	--	1.75	3.40
14.4	--	--	--	--	1.73	3.37
14.5	--	--	--	--	1.72	3.34
14.6	--	--	--	--	1.71	3.31

14.7	--	--	--	--	1.69	3.29
14.8	--	--	--	--	1.68	3.26
14.9	--	--	--	--	1.67	3.23
15.0	--	--	--	--	1.65	3.21
15.1	--	--	--	--	1.64	3.18
15.2	--	--	--	--	1.63	3.16
15.3	--	--	--	--	1.61	3.13
15.4	--	--	--	--	1.60	3.11
15.5	--	--	--	--	1.59	3.09
15.6	--	--	--	--	1.58	3.06
15.7	--	--	--	--	1.56	3.04
15.8	--	--	--	--	1.55	3.02
15.9	--	--	--	--	1.54	2.99
16.0	--	--	--	--	1.53	2.97
16.1	--	--	--	--	1.52	2.95
16.2	--	--	--	--	1.51	2.93
16.3	--	--	--	--	1.50	2.91
16.4	--	--	--	--	1.49	2.88
16.5	--	--	--	--	1.48	2.86
16.6	--	--	--	--	1.47	2.84
16.7	--	--	--	--	1.45	2.82
16.8	--	--	--	--	1.44	2.80
16.9	--	--	--	--	1.43	2.78
17.0	--	--	--	--	1.42	2.76
17.1	--	--	--	--	1.41	2.74
17.2	--	--	--	--	1.41	2.73
17.3	--	--	--	--	1.40	2.71
17.4	--	--	--	--	1.39	2.69
17.5	--	--	--	--	1.38	2.67
17.6	--	--	--	--	1.37	2.65
17.7	--	--	--	--	1.36	2.63
17.8	--	--	--	--	1.35	2.62
17.9	--	--	--	--	1.34	2.60
18.0	--	--	--	--	1.33	2.58
18.1	--	--	--	--	1.32	2.57
18.2	--	--	--	--	1.31	2.55
18.3	--	--	--	--	1.31	2.53
18.4	--	--	--	--	1.30	2.52
18.5	--	--	--	--	1.29	2.50
18.6	--	--	--	--	1.28	2.48
18.7	--	--	--	--	1.27	2.47
18.8	--	--	--	--	1.27	2.45
18.9	--	--	--	--	1.26	2.44
19.0	--	--	--	--	1.25	2.42

19.1	--	--	--	--	1.24	2.41
19.2	--	--	--	--	1.23	2.39
19.3	--	--	--	--	1.23	2.38
19.4	--	--	--	--	1.22	2.36
19.5	--	--	--	--	1.21	2.35
19.6	--	--	--	--	1.21	2.33
19.7	--	--	--	--	1.20	2.32
19.8	--	--	--	--	1.19	2.31
19.9	--	--	--	--	1.18	2.29
20.0	--	--	--	--	1.18	2.28
20.1	--	--	--	--	1.17	2.27
20.2	--	--	--	--	1.16	2.25
20.3	--	--	--	--	1.16	2.24
20.4	--	--	--	--	1.15	2.23
20.5	--	--	--	--	1.14	2.21
20.6	--	--	--	--	1.14	2.20
20.7	--	--	--	--	1.13	2.19
20.8	--	--	--	--	1.12	2.18
20.9	--	--	--	--	1.12	2.16
21.0	--	--	--	--	1.11	2.15
21.1	--	--	--	--	1.11	2.14
21.2	--	--	--	--	1.10	2.13
21.3	--	--	--	--	1.09	2.12
21.4	--	--	--	--	1.09	2.10
21.5	--	--	--	--	1.08	2.09
21.6	--	--	--	--	1.08	2.08
21.7	--	--	--	--	1.07	2.07
21.8	--	--	--	--	1.06	2.06
21.9	--	--	--	--	1.06	2.05
22.0	--	--	--	--	1.05	2.04
22.1	--	--	--	--	1.05	2.03
22.2	--	--	--	--	1.04	2.02
22.3	--	--	--	--	1.04	2.01
22.4	--	--	--	--	1.03	1.99
22.5	--	--	--	--	1.03	1.98
22.6	--	--	--	--	1.02	1.97
22.7	--	--	--	--	1.02	1.96
22.8	--	--	--	--	1.01	1.95
22.9	--	--	--	--	1.01	1.94
23.0	--	--	--	--	1.00	1.93
23.1	--	--	--	--	--	1.92
23.2	--	--	--	--	--	1.91
23.3	--	--	--	--	--	1.90
23.4	--	--	--	--	--	1.89

23.5	--	--	--	--	--	1.89
23.6	--	--	--	--	--	1.88
23.7	--	--	--	--	--	1.87
23.8	--	--	--	--	--	1.86
23.9	--	--	--	--	--	1.85
24.0	--	--	--	--	--	1.84
24.1	--	--	--	--	--	1.83
24.2	--	--	--	--	--	1.82
24.3	--	--	--	--	--	1.81
24.4	--	--	--	--	--	1.80
24.5	--	--	--	--	--	1.80
24.6	--	--	--	--	--	1.79
24.7	--	--	--	--	--	1.78
24.8	--	--	--	--	--	1.77
24.9	--	--	--	--	--	1.76
25.0	--	--	--	--	--	1.75
25.1	--	--	--	--	--	1.75
25.2	--	--	--	--	--	1.74
25.3	--	--	--	--	--	1.73
25.4	--	--	--	--	--	1.72
25.5	--	--	--	--	--	1.71
25.6	--	--	--	--	--	1.71
25.7	--	--	--	--	--	1.70
25.8	--	--	--	--	--	1.69
25.9	--	--	--	--	--	1.68
26.0	--	--	--	--	--	1.68
26.1	--	--	--	--	--	1.67
26.2	--	--	--	--	--	1.66
26.3	--	--	--	--	--	1.65
26.4	--	--	--	--	--	1.65
26.5	--	--	--	--	--	1.64
26.6	--	--	--	--	--	1.63
26.7	--	--	--	--	--	1.62
26.8	--	--	--	--	--	1.62
26.9	--	--	--	--	--	1.61
27.0	--	--	--	--	--	1.60
27.1	--	--	--	--	--	1.60
27.2	--	--	--	--	--	1.59
27.3	--	--	--	--	--	1.58
27.4	--	--	--	--	--	1.58
27.5	--	--	--	--	--	1.57
27.6	--	--	--	--	--	1.56
27.7	--	--	--	--	--	1.56
27.8	--	--	--	--	--	1.55

27.9	--	--	--	--	--	1.54
28.0	--	--	--	--	--	1.54
28.1	--	--	--	--	--	1.53
28.2	--	--	--	--	--	1.52
28.3	--	--	--	--	--	1.52
28.4	--	--	--	--	--	1.51
28.5	--	--	--	--	--	1.51
28.6	--	--	--	--	--	1.50
28.7	--	--	--	--	--	1.49
28.8	--	--	--	--	--	1.49
28.9	--	--	--	--	--	1.48
29.0	--	--	--	--	--	1.48
29.1	--	--	--	--	--	1.47
29.2	--	--	--	--	--	1.46
29.3	--	--	--	--	--	1.46
29.4	--	--	--	--	--	1.45
29.5	--	--	--	--	--	1.45
29.6	--	--	--	--	--	1.44
29.7	--	--	--	--	--	1.43
29.8	--	--	--	--	--	1.43
29.9	--	--	--	--	--	1.42
30.0	--	--	--	--	--	1.42
30.1	--	--	--	--	--	1.41
30.2	--	--	--	--	--	1.41
30.3	--	--	--	--	--	1.40
30.4	--	--	--	--	--	1.40
30.5	--	--	--	--	--	1.39
30.6	--	--	--	--	--	1.39
30.7	--	--	--	--	--	1.38
30.8	--	--	--	--	--	1.38
30.9	--	--	--	--	--	1.37
31.0	--	--	--	--	--	1.37
31.1	--	--	--	--	--	1.36
31.2	--	--	--	--	--	1.36
31.3	--	--	--	--	--	1.35
31.4	--	--	--	--	--	1.35
31.5	--	--	--	--	--	1.34
31.6	--	--	--	--	--	1.34
31.7	--	--	--	--	--	1.33
31.8	--	--	--	--	--	1.33
31.9	--	--	--	--	--	1.32
32.0	--	--	--	--	--	1.32
32.1	--	--	--	--	--	1.31
32.2	--	--	--	--	--	1.31

32.3	--	--	--	--	--	1.30
32.4	--	--	--	--	--	1.30
32.5	--	--	--	--	--	1.29
32.6	--	--	--	--	--	1.29
32.7	--	--	--	--	--	1.28
32.8	--	--	--	--	--	1.28
32.9	--	--	--	--	--	1.27
33.0	--	--	--	--	--	1.27
33.1	--	--	--	--	--	1.27
33.2	--	--	--	--	--	1.26
33.3	--	--	--	--	--	1.26
33.4	--	--	--	--	--	1.25
33.5	--	--	--	--	--	1.25
33.6	--	--	--	--	--	1.24
33.7	--	--	--	--	--	1.24
33.8	--	--	--	--	--	1.24
33.9	--	--	--	--	--	1.23
34.0	--	--	--	--	--	1.23
34.1	--	--	--	--	--	1.22
34.2	--	--	--	--	--	1.22
34.3	--	--	--	--	--	1.21
34.4	--	--	--	--	--	1.21
34.5	--	--	--	--	--	1.21
34.6	--	--	--	--	--	1.20
34.7	--	--	--	--	--	1.20
34.8	--	--	--	--	--	1.19
34.9	--	--	--	--	--	1.19
35.0	--	--	--	--	--	1.19
35.1	--	--	--	--	--	1.18
35.2	--	--	--	--	--	1.18
35.3	--	--	--	--	--	1.17
35.4	--	--	--	--	--	1.17
35.5	--	--	--	--	--	1.17
35.6	--	--	--	--	--	1.16
35.7	--	--	--	--	--	1.16
35.8	--	--	--	--	--	1.16
35.9	--	--	--	--	--	1.15
36.0	--	--	--	--	--	1.15
36.1	--	--	--	--	--	1.14
36.2	--	--	--	--	--	1.14
36.3	--	--	--	--	--	1.14
36.4	--	--	--	--	--	1.13
36.5	--	--	--	--	--	1.13
36.6	--	--	--	--	--	1.13

36.7	--	--	--	--	--	1.12
36.8	--	--	--	--	--	1.12
36.9	--	--	--	--	--	1.12
37.0	--	--	--	--	--	1.11
37.1	--	--	--	--	--	1.11
37.2	--	--	--	--	--	1.11
37.3	--	--	--	--	--	1.10
37.4	--	--	--	--	--	1.10
37.5	--	--	--	--	--	1.10
37.6	--	--	--	--	--	1.09
37.7	--	--	--	--	--	1.09
37.8	--	--	--	--	--	1.09
37.9	--	--	--	--	--	1.08
38.0	--	--	--	--	--	1.08
38.1	--	--	--	--	--	1.08
38.2	--	--	--	--	--	1.07
38.3	--	--	--	--	--	1.07
38.4	--	--	--	--	--	1.07
38.5	--	--	--	--	--	1.06
38.6	--	--	--	--	--	1.06
38.7	--	--	--	--	--	1.06
38.8	--	--	--	--	--	1.05
38.9	--	--	--	--	--	1.05
39.0	--	--	--	--	--	1.05
39.1	--	--	--	--	--	1.04
39.2	--	--	--	--	--	1.04
39.3	--	--	--	--	--	1.04
39.4	--	--	--	--	--	1.04
39.5	--	--	--	--	--	1.03
39.6	--	--	--	--	--	1.03
39.7	--	--	--	--	--	1.03
39.8	--	--	--	--	--	1.02
39.9	--	--	--	--	--	1.02
40.0	--	--	--	--	--	1.02
40.1	--	--	--	--	--	1.01
40.2	--	--	--	--	--	1.01
40.3	--	--	--	--	--	1.01
40.4	--	--	--	--	--	1.01
40.5	--	--	--	--	--	1.00
40.6	--	--	--	--	--	1.00

^aPinault et al. 2017 mean annual concentration, above which the adjustment factor is 1.

^bDi et al. 2017 mean annual concentration, above which the adjustment factor is 1.

^cHart et al. 2015 mean annual concentration, above which the adjustment factor is 1.

^dTurner et al. 2016 mean annual concentration, above which the adjustment factor is 1.

^eCesaroni et al. 2013 mean annual concentration, above which the adjustment factor is 1.

^fYin et al. 2017 mean annual concentration, above which the adjustment factor is 1.

Table S4. Population-weighted mean and variance of 2014 U.S. PM_{2.5} concentrations and hypothetical rollback scenarios.

Air Quality	Mean ($\mu\text{g}/\text{m}^3$)	Var ($[\mu\text{g}/\text{m}^3]^2$)
Baseline ¹	8.3	3.1
10% Rollback	7.5	2.5
20% Rollback	6.6	2.0
30% Rollback	5.8	1.5
40% Rollback	5.0	1.1
50% Rollback	4.2	0.8
60% Rollback	3.3	0.5
70% Rollback	2.5	0.2
80% Rollback	2.03	0.01
90% Rollback	2.0	0.0

¹Baseline distribution is a national distribution of PM_{2.5} concentrations in the contiguous U.S. for the year 2014. PM_{2.5} concentrations were predicted by combining PM_{2.5} information from national air quality monitoring networks and Community Multiscale Air Quality (CMAQ v 4.7)

Table S5A. Comparison of population attributable fractions (PAF) and 95% confidence intervals (CI) using standard and hybrid uncertainty methods when rolling back 2014 U.S. population-weighted annual PM_{2.5} concentrations by incremental percentages ranging from 10 to 90%. Estimates derived from Pinault et al. (2017), Di et al. (2017), and Hart et al. (2015).

Author/ Cohort	Rollback	PAF	Standard 95% CI		Hybrid 95% CI	
			LCL	UCL	LCL	UCL
Pinault et al. (2017) CanCHEC	10%	1.37%	1.16%	1.57%	0.80%	1.92%
	20%	2.71%	2.30%	3.11%	1.52%	3.88%
	30%	4.03%	3.43%	4.64%	2.11%	5.92%
	40%	5.33%	4.54%	6.12%	2.55%	8.04%
	50%	6.62%	5.64%	7.60%	2.75%	10.35%
	60%	7.88%	6.72%	9.03%	2.61%	12.87%
	70%	9.07%	7.74%	10.38%	1.87%	15.73%
	80%	9.82%	8.39%	11.23%	0.93%	17.89%
	90%	9.86%	8.42%	11.27%	0.89%	17.98%
Di et al. (2017) Medicare	10%	0.67%	0.65%	0.69%	0.62%	0.72%
	20%	1.33%	1.29%	1.37%	1.22%	1.44%
	30%	1.99%	1.93%	2.04%	1.81%	2.16%
	40%	2.64%	2.56%	2.71%	2.38%	2.89%
	50%	3.29%	3.19%	3.38%	2.93%	3.64%
	60%	3.92%	3.82%	4.03%	3.44%	4.40%
	70%	4.53%	4.41%	4.66%	3.88%	5.18%
	80%	4.92%	4.79%	5.06%	4.12%	5.72%
	90%	4.94%	4.80%	5.08%	4.13%	5.75%
Hart et al. (2015) NHS	10%	1.01%	0.39%	1.62%	-0.64%	2.64%
	20%	2.00%	0.78%	3.21%	-1.55%	5.44%
	30%	3.00%	1.18%	4.78%	-2.81%	8.46%
	40%	3.97%	1.56%	6.30%	-4.55%	11.77%
	50%	4.94%	1.96%	7.83%	-7.06%	15.57%
	60%	5.88%	2.34%	9.30%	-10.74%	20.02%
	70%	6.78%	2.70%	10.69%	-16.33%	25.29%
	80%	7.36%	2.92%	11.55%	-21.75%	29.42%
	90%	7.38%	2.95%	11.60%	-22.18%	29.65%

Notes: CanCHEC = the Canadian Census Health and the Environment Cohort; CI = confidence interval; LCL = lower confidence limit; NHS = Nurses' Health Study; PAF = population attributable fraction; UCL = upper confidence limit.

Table S5B. Comparison of population attributable fractions (PAF) and 95% confidence intervals (CI) using standard and hybrid uncertainty methods when rolling back 2014 U.S. population-weighted annual PM_{2.5} concentrations by incremental percentages ranging from 10 to 90%. Estimates derived from Turner et al. (2016), Cesaroni et al. (2013), and Yin et al. (2017).

Author/ Cohort	Rollback	PAF	Standard		Hybrid	
			LCL	UCL	LCL	UCL
Turner et al. (2016) ACS	10%	0.56%	0.45%	0.67%	0.25%	0.87%
	20%	1.12%	0.89%	1.34%	0.46%	1.77%
	30%	1.67%	1.33%	2.01%	0.60%	2.73%
	40%	2.22%	1.77%	2.67%	0.66%	3.75%
	50%	2.76%	2.20%	3.32%	0.60%	4.88%
	60%	3.30%	2.64%	3.97%	0.33%	6.18%
	70%	3.82%	3.04%	4.58%	-0.22%	7.70%
	80%	4.15%	3.31%	4.98%	-0.87%	8.89%
	90%	4.16%	3.32%	5.00%	-0.91%	8.96%
Cesaroni et al. (2013) RoLS	10%	0.33%	0.25%	0.40%	0.11%	0.54%
	20%	0.65%	0.49%	0.81%	0.20%	1.10%
	30%	0.97%	0.74%	1.21%	0.24%	1.70%
	40%	1.29%	0.98%	1.60%	0.21%	2.36%
	50%	1.61%	1.22%	2.00%	0.11%	3.10%
	60%	1.93%	1.46%	2.39%	-0.13%	3.95%
	70%	2.23%	1.69%	2.77%	-0.57%	4.96%
	80%	2.43%	1.84%	3.01%	-1.04%	5.77%
	90%	2.44%	1.85%	3.02%	-1.07%	5.83%
Yin et al. (2017) NCCM	10%	0.71%	0.68%	0.75%	0.61%	0.81%
	20%	1.42%	1.34%	1.49%	1.20%	1.64%
	30%	2.12%	2.01%	2.23%	1.77%	2.47%
	40%	2.82%	2.67%	2.96%	2.30%	3.33%
	50%	3.51%	3.32%	3.69%	2.79%	4.21%
	60%	4.19%	3.97%	4.41%	3.22%	5.15%
	70%	4.83%	4.58%	5.08%	3.52%	6.13%
	80%	5.25%	4.98%	5.52%	3.63%	6.85%
	90%	5.27%	5.00%	5.54%	3.63%	6.88%

Notes: ACS = American Cancer Society's Cancer Prevention Study II; CI = confidence interval; LCL = lower confidence limit; NCCM = the National Cohort of Chinese Men; PAF = population attributable fraction; RoLS = the Rome Longitudinal Study; UCL = upper confidence limit.

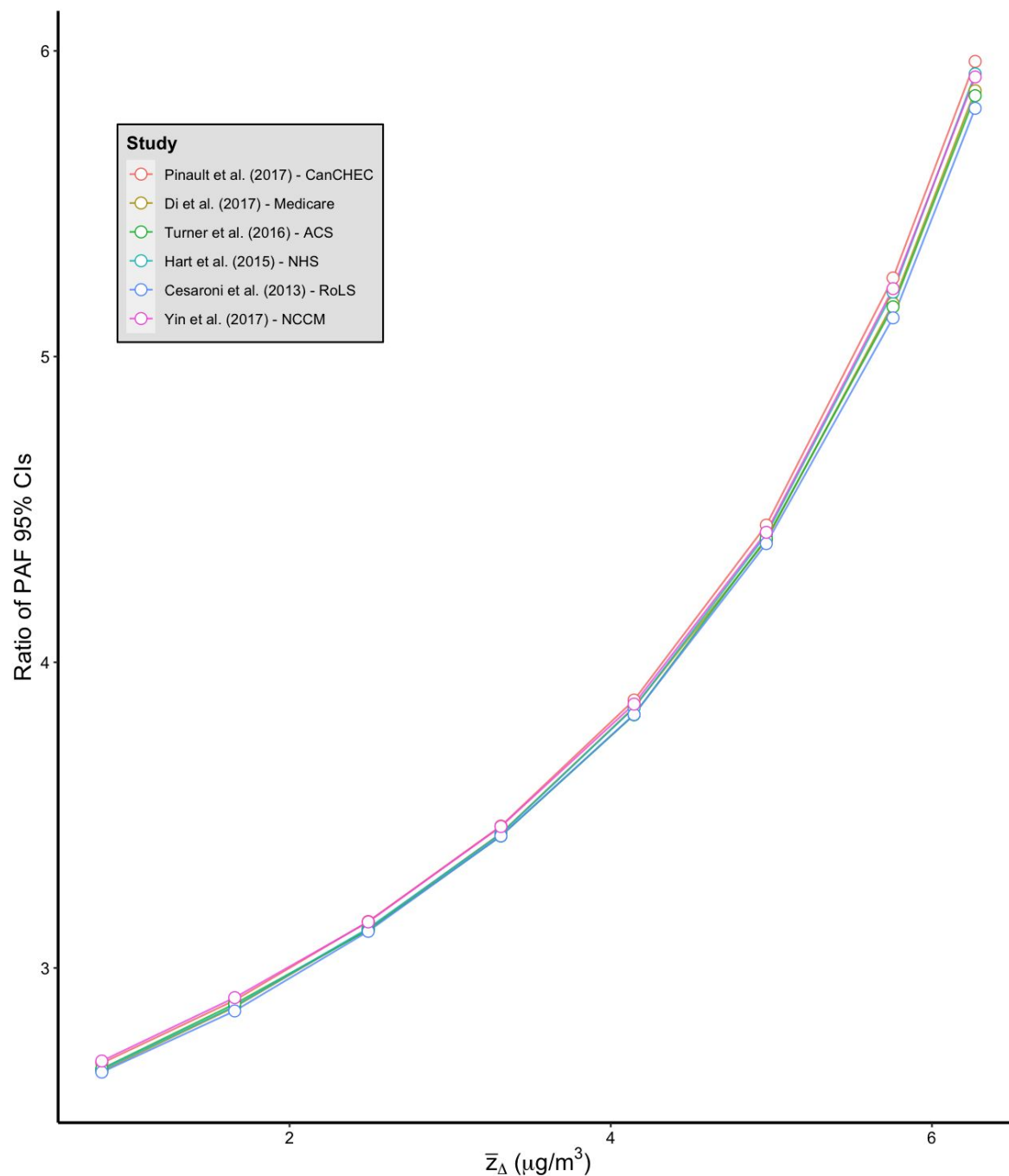


Figure Note: $\bar{z}_\Delta$ is the difference between population-weighted mean of a given rollback scenario (z_t) and the population-weighted mean of the 2014 baseline concentration distribution (z_c).

Figure S1. Ratio of hybrid and standard 95% confidence intervals (CIs) for population attributable fractions (PAF) when rolling back 2014 U.S. population-weighted annual $\text{PM}_{2.5}$ concentrations by incremental percentages ranging from 10 to 90%.

Appendix 1. R code for calculating the variance of hypothetical PM_{2.5} distributions.

This R code estimates the variance of hypothetical PM_{2.5} concentration distributions with mean annual PM_{2.5} concentrations defined in 0.1 µg/m³ increments. This sample code includes the observed annual PM_{2.5} concentration distribution mean and variance from Turner et al. (2016).

```
#specify the counterfactual concentration (cf)
cf=2.0
#specify the maximum PM2.5 concentration (maxcon) reported in the study
maxcon=27.9
#specify mean of PM2.5 exposure distribution (a) in cohort; this is  $m_{obs}$  in Section 2.1
a=12.6
#specify variance of PM2.5 exposure distribution (b) in cohort; this is  $v_{obs}^2$  in Section 2.1
b=8.41
#determine mean of log-normal PM2.5 distribution (mu); this is  $\mu_{obs}$  in Section 2.1
mu=-0.5*log((b+a^2)/a^4)
#determine variance of log-normal PM2.5 distribution (sigma2); this is  $\sigma_{obs}^2$  in Section 2.1
sigma2=2*(log(a)-mu)
#determine ratio of variance to mean (gamma); this is  $\alpha_{obs}$  in Section 2.1
gamma=sigma2/mu
#define hypothetical means ranging from the counterfactual to the maximum concentration in 2.1
#µg/m3 increments; this is  $m_{new}$  in Section 2.1
newa=seq(cf, a, 0.1)
#determine new value of mu (newmu) based on ratio gamma; this is  $\tilde{\mu}$  in Section 2.1
newmu=log(newa)/(1+gamma/2)
#determine new variance (newb) for each new mean based on newmu and gamma;
# this is  $v_{new}^2$  in Section 2.1
newb=(exp(gamma*newmu)-1)*exp(2*newmu+gamma*newmu)
```

Appendix 2. R code for calculating hybrid uncertainty estimates.

This R code applies the variance of hypothetical PM_{2.5} concentration distributions calculated in Appendix 1 to estimate hybrid 95% CIs. This code includes an effect estimate and standard error reported in Turner et al. (2016) and should be appended to, and executed in conjunction with, the R code for calculating the variance of hypothetical PM_{2.5} distributions (Appendix 1).

```
#calculate beta from the reported HR
beta=log(1.07)/10
#calculate the standard error of beta from the reported 95% CIs
se=(log(1.09)-log(1.06))/(10*2*1.96)
#determine adjustment of cohort standard error (se) for hypothetically new log-normal exposure
#distribution with new mean concentration
newPM25=newa
adj=b/newb
Adj= sqrt((adj/adj[length(adj)]))
newse=se*Adj
#determine new HR, lower and upper confidence intervals from cf to cohort mean concentrations
newHR=exp((newPM25-cf)*beta)
newlcl=exp((newPM25-cf)*(beta-1.96*newse))
newucl=exp((newPM25-cf)*(beta+1.96*newse))
#determine HR (orgHR), lower (orglcl) and upper (orgucl) confidence limits from cohort mean
#concentration (a) to maximum concentration (maxcon)
orgPM=seq(a, maxcon, 0.1)
orgHR=exp((orgPM-cf)*beta)
orglcl=exp((orgPM-cf)*(beta-1.96*se))
orgucl=exp((orgPM-cf)*(beta+1.96*se))
HR=c(newHR, orgHR)
lcl=c(newlcl, orglcl)
ucl=c(newucl, orgucl)
x=c(newPM25, orgPM)
#determine standard lower and upper uncertainty bounds
lclbase=exp((x-cf)*(beta-1.96*se))
uclbase=exp((x-cf)*(beta+1.96*se))
#create dataset of hypothetical mean PM2.5 concentrations, corresponding hazard ratios, hybrid
confidence intervals, and standard confidence intervals
PM25=x
out=cbind(PM25, HR, lcl, ucl, lclbase, uclbase)
```