

Supplementary Materials: Indoor Temperatures in Patient Waiting Rooms in Eight Rural Primary Health Care Centers in Northern South Africa and the Related Potential Risks to Human Health and Wellbeing

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Table S1. Indoor clinic temperature and humidity measurements. (a) Mean measured temperature per month for each clinic (1–8) with standard deviation and 1st and 99th percentiles; (b) Mean relative humidity per month for each clinic with standard deviation and 1st and 99th percentiles.

(a)																			
	Dec 2015			Jan 2016			Feb 2016			Mar 2016			Apr 2016			May 2016			
	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	
1	31.2 (2.9)	24.9	37.4	29.9 (2.5)	24.5	36.9	30.6 (2.8)	25.2	38.0	29.4 (2.4)	24.6	35.6	27.5 (2.9)	21.7	33.6	20.1 (4.0)	9.4	29.2	
2	28.1 (2.3)	23.9	34.1	27.3 (2.0)	23.5	32.6	28.1 (2.1)	24.4	34.0	27.4 (2.0)	23.5	33.6	25.7 (2.2)	21.6	31.3	20.1 (4.8)	9.4	35.0	
3	31.9 (2.9)	25.3	38.5	30.8 (2.4)	25.4	37.6	31.4 (2.7)	26.0	38.7	30.1 (2.4)	25.6	37.1	28.3 (2.6)	22.9	34.1	20.3 (4.2)	9.4	29.6	
4	27.8 (2.1)	24.2	33.9	27.1 (2.3)	22.6	33.9	27.6 (2.5)	22.8	34.5	26.3 (2.2)	22.2	33.0	24.7 (2.1)	20.7	29.8	19.7 (4.5)	8.9	35.6	
5	29.1 (1.8)	25.5	33.9	27.8 (2.3)	23.3	35.0	28.1 (2.5)	22.2	33.9	27.2 (2.0)	23.4	32.8	25.6 (2.2)	21.4	30.8	19.9 (4.8)	9.2	34.4	
6	29.7 (2.1)	24.2	33.9	28.4 (2.4)	23.1	35.8	29.1 (2.7)	24.0	36.9	27.6 (2.3)	23.0	34.4	25.7 (2.5)	21.0	31.5	19.6 (3.7)	9.3	28.8	
7	29.4 (2.4)	24.8	36.0	28.8 (2.5)	23.8	36.2	28.8 (2.6)	24.2	35.2	27.1 (2.3)	22.6	32.9	24.9 (2.8)	19.7	31.1	19.7 (4.5)	9.1	34.4	
8	31.2 (2.9)	24.9	37.4	29.9 (2.5)	24.5	36.9	30.6 (2.8)	25.2	38.0	29.4 (2.4)	24.6	35.6	27.5 (2.9)	21.7	33.6	20.1 (4.0)	9.4	29.2	
Total	29.8 (1.5)	27.8	31.9	28.8 (1.3)	27.1	30.8	29.3 (1.4)	27.6	31.4	28.0 (1.4)	26.3	30.1	26.2 (1.3)	24.7	28.3	19.9 (0.3)	19.6	20.3	
(b)																			
	Dec 2015			Jan 2016			Feb 2016			Mar 2016			Apr 2016			May 2016			
	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	
1	43.8 (6.1)	35.6	58.5	44.5 (5.9)	29.2	56.6	45.2 (6.8)	35.1	60.3	51.1 (7.8)	35.0	63.5	46.5 (4.0)	38.1	54.8	49.0 (7.9)	34.4	61.3	
2	51.4 (4.9)	41.1	61.9	53.2 (5.6)	36.7	64.9	52.6 (6.5)	42.3	65.6	58.7 (7.7)	41.0	73.3	55.6 (3.7)	46.4	61.9	49.6 (10.2)	24.0	63.6	
3	43.6 (5.5)	34.5	56.8	44.5 (5.4)	29.5	56.1	44.5 (6.6)	34.5	58.9	50.8 (7.4)	34.6	64.4	48.4 (3.5)	40.2	55.0	49.6 (8.2)	34.5	62.5	
4	50.2 (3.8)	41.9	59.8	51.8 (6.2)	34.1	62.9	53.4 (6.3)	41.7	66.0	60.6 (8.3)	41.3	72.8	56.7 (3.0)	49.2	62.4	51.3 (9.9)	23.9	65.0	
5	45.9 (4.6)	37.0	57.8	48.4 (6.8)	29.6	60.5	50.1 (7.3)	38.1	65.8	56.7 (8.4)	38.2	69.6	51.3 (3.8)	42.4	58.0	48.3 (10.1)	23.2	62.9	
6	45.4 (6.3)	33.7	60.2	48.7 (7.8)	27.2	60.4	49.4 (8.2)	32.6	64.6	56.2 (8.9)	36.4	68.3	52.2 (4.3)	42.1	59.4	50.6 (7.9)	33.6	63.0	
7	43.2 (6.6)	31.6	59.5	45.3 (7.2)	25.7	57.9	47.8 (8.2)	31.5	64.4	54.5 (10.2)	33.2	69.9	51.3 (6.2)	36.5	62.3	49.6 (9.9)	24.8	64.0	
8	43.8 (6.1)	35.6	58.5	44.5 (5.9)	29.2	56.6	45.2 (6.8)	35.1	60.3	51.1 (7.8)	35.0	63.5	46.5 (4.0)	38.1	54.8	49.0 (7.9)	34.4	61.3	
Total	45.9 (3.2)	43.2	51.4	47.6 (3.5)	44.5	53.2	48.5 (3.4)	44.5	53.4	55.0 (3.7)	50.8	60.6	51.1 (3.8)	46.5	56.7	49.6 (0.9)	48.3	51.3	

SD: standard deviation; p1: 1st percentile; p99: 99th percentile.

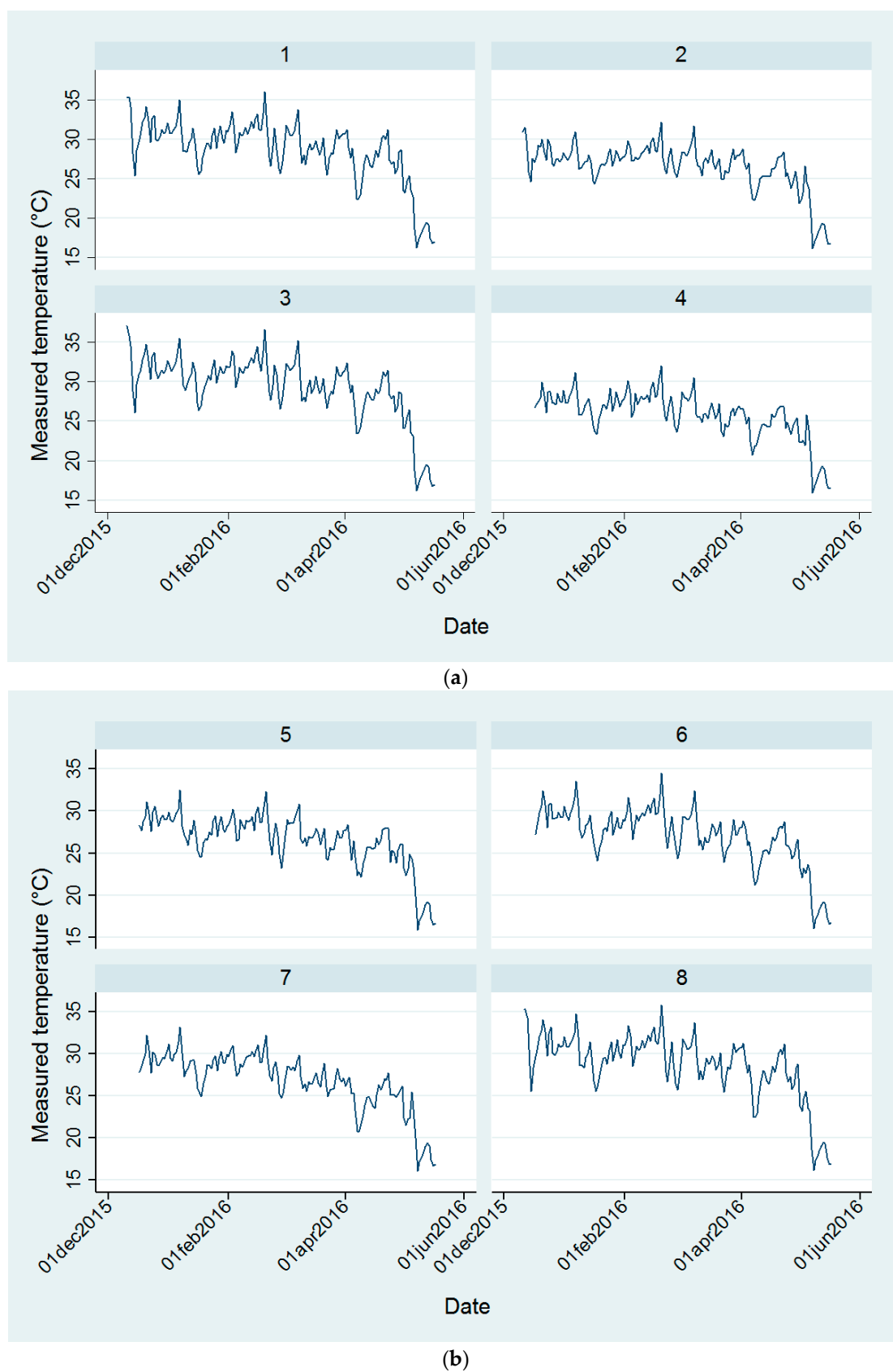


Figure S1. Indoor clinic temperatures. (a) Mean (over all time points) measured indoor temperature per day for clinics 1–4; (b) Mean (over all time points) measured indoor temperature per day for clinics 5–8.

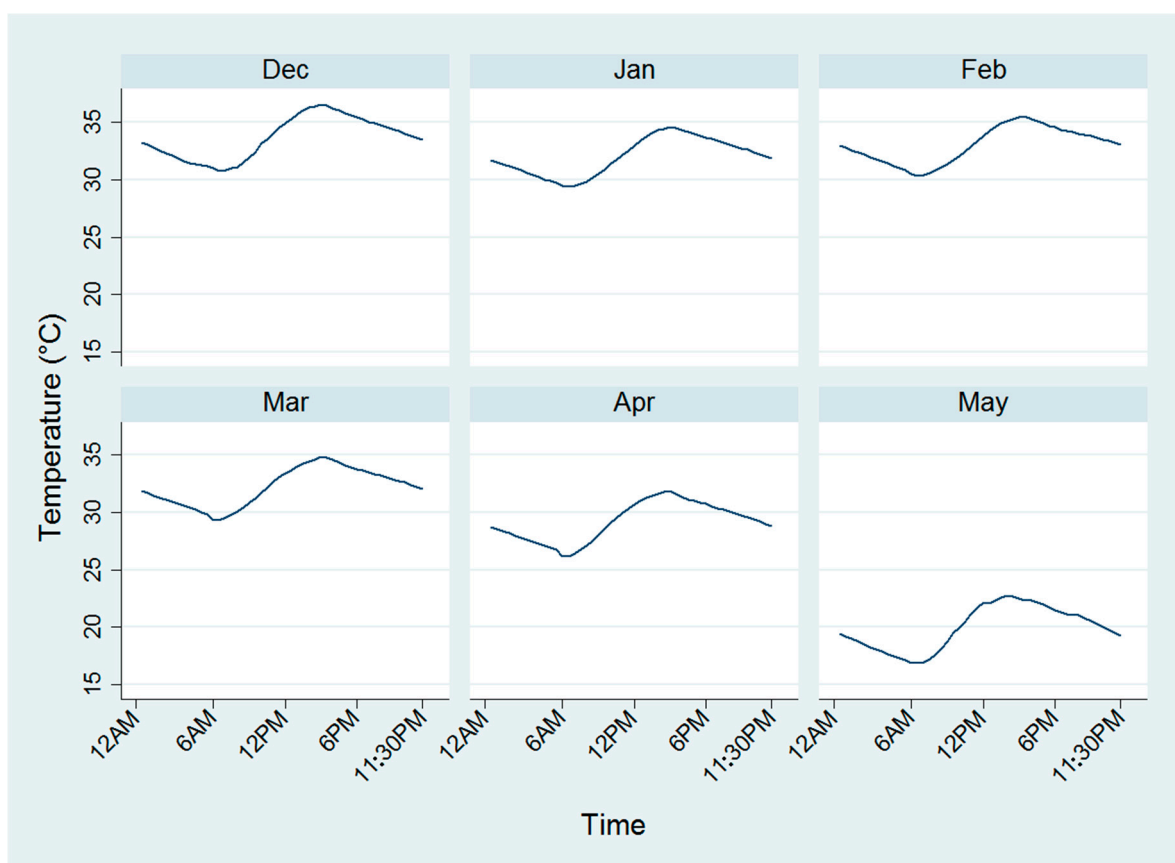


Figure S2. Mean indoor temperature experienced at each time point during each month for clinic 1, as an illustration of daily variation in indoor temperatures measurements.

Table S2. Ambient (outdoor) mean, minimum and maximum temperature and relative humidity measurements made at the Thohoyandou airport by month.

	Dec 2015			Jan 2016			Feb 2016			Mar 2016			Apr 2016			May 2016		
	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99
Min temp	20.4 (1.4)	18.0	23.0	20.1 (1.9)	15.0	24.0	20.6 (1.3)	18.0	22.0	19.2 (2.1)	15.0	22.0	16.2 (2.4)	13.0	22.0	12.4 (2.1)	10.0	16.0
Max temp	31.9 (4.1)	21.0	38.0	30.7 (3.4)	24.0	39.0	31.4 (4.5)	22.0	40.0	29.2 (3.7)	22.0	36.0	27.5 (4.6)	18.0	35.0	24.8 (2.9)	18.0	29.0
Mean temp	26.2 (2.4)	20.0	30.0	25.4 (2.1)	21.0	29.0	25.9 (2.5)	20.0	31.0	24.2 (1.9)	20.0	28.0	22.1 (2.9)	16.0	30.0	18.8 (1.1)	16.0	20.0
Min humidity	28.0 (17.2)	13.0	78.0	28.1 (13.2)	7.0	62.0	31.7 (20.5)	9.0	80.0	38.5 (19.0)	11.0	72.0	34.7 (15.7)	12.0	67.0	29.8 (10.6)	17.0	50.0
Max humidity	70.4 (11.5)	57.0	94.0	69.9 (12.8)	41.0	88.0	68.7 (15.1)	26.0	88.0	79.5 (9.2)	59.0	94.0	77.5 (9.6)	45.0	90.0	77.5 (6.6)	62.0	85.0
Mean humidity	48.9 (13.7)	32.0	83.0	48.9 (13.4)	24.0	76.0	50.7 (16.8)	26.0	85.0	61.1 (15.0)	33.0	85.0	57.4 (11.7)	30.0	75.0	54.8 (7.1)	42.0	67.0

Table S3. Monthly averages were compared for each clinic and the ambient (outdoor) temperature measurements and tested for statistically significant differences.

Month	Dec 2015		Jan 2016		Feb 2016		Mar 2016		Apr 2016		May 2016	
Ambient Temperature °C (SD)	26.2 (2.4)		25.4 (2.1)		25.9 (2.5)		24.2 (1.9)		22.1 (2.9)		18.8 (1.1)	
Clinic	Temp	p-Value	Temp	p-Value	Temp	p-Value	Temp	p-Value	Temp	p-Value	Temp	p-Value
1	31.2 (2.9)	<0.0001	29.9 (2.5)	<0.0001	30.6 (2.8)	<0.0001	29.4 (2.4)	<0.0001	27.5 (2.9)	<0.0001	20.1 (4.0)	0.0002
2	28.1 (2.3)	0.002	27.3 (2.0)	<0.0001	28.1 (2.1)	0.0001	27.4 (2.0)	<0.0001	25.7 (2.2)	<0.0001	20.1 (4.8)	0.0003
3	31.9 (2.9)	<0.0001	30.8 (2.4)	<0.0001	31.4 (2.7)	<0.0001	30.1 (2.4)	<0.0001	28.3 (2.6)	<0.0001	20.3 (4.2)	<0.0001
4	27.8 (2.1)	0.007	27.1 (2.3)	0.0001	27.6 (2.5)	0.001	26.3 (2.2)	<0.0001	24.7 (2.1)	0.0001	19.7 (4.5)	0.007
5	29.1 (1.8)	<0.0001	27.8 (2.3)	<0.0001	28.1 (2.5)	0.0001	27.2 (2.0)	<0.0001	25.6 (2.2)	<0.0001	19.9 (4.8)	0.002
6	29.7 (2.1)	<0.0001	28.4 (2.4)	<0.0001	29.1 (2.7)	<0.0001	27.6 (2.3)	<0.0001	25.7 (2.5)	<0.0001	19.6 (3.7)	0.013
7	29.4 (2.4)	<0.0001	28.8 (2.5)	<0.0001	28.8 (2.6)	<0.0001	27.1 (2.3)	<0.0001	24.9 (2.8)	<0.0001	19.7 (4.5)	0.007
8	31.2 (2.9)	<0.0001	29.9 (2.5)	<0.0001	30.6 (2.8)	<0.0001	29.4 (2.4)	<0.0001	27.5 (2.9)	<0.0001	20.1 (4.0)	0.0002

Table S4. Mean apparent temperature (AT) per month for each clinic, with standard deviation and 1st and 99th percentiles.

	Dec 2015			Jan 2016			Feb 2016			Mar 2016			Apr 2016			May 2016		
	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99	Mean (SD)	p1	p99
1	33.7 (3.5)	26.4	41.6	32.0 (2.8)	26.0	39.0	33.0 (3.2)	27.4	41.8	32.2 (2.7)	26.6	38.5	29.2 (3.5)	21.9	36.9	19.9 (4.6)	6.9	30.5
2	30.5 (2.8)	25.6	38.3	29.7 (2.3)	25.5	35.4	30.6 (2.6)	26.4	38.1	30.5 (2.4)	25.7	36.8	27.7 (2.9)	22.1	34.6	19.9 (5.4)	6.7	35.6
3	34.6 (3.5)	26.9	42.6	33.3 (2.7)	27.2	39.8	34.2 (3.1)	28.3	42.7	33.1 (2.7)	27.7	40.2	30.4 (3.3)	23.4	37.5	20.3 (4.9)	6.8	30.9
4	30.0 (2.7)	25.3	38.1	29.2 (2.7)	24.0	36.5	30.1 (3.0)	24.3	38.8	29.1 (2.6)	24.3	36.5	26.5 (2.8)	21.3	33.2	19.6 (5.1)	6.2	36.0
5	31.2 (2.2)	26.4	37.2	29.8 (2.5)	24.3	36.5	30.3 (2.8)	24.0	37.5	29.8 (2.3)	25.4	35.9	27.2 (2.8)	21.8	33.6	19.6 (5.3)	6.5	35.0
6	31.9 (2.3)	28.0	38.1	30.5 (2.5)	24.3	37.0	31.5 (2.9)	26.2	39.7	30.4 (2.5)	24.7	36.8	27.4 (3.0)	21.6	34.1	19.5 (4.3)	6.7	29.7
7	31.2 (2.7)	26.1	38.5	30.6 (2.6)	24.9	37.7	31.0 (2.7)	26.2	38.0	29.5 (2.7)	23.8	35.7	26.2 (3.4)	20.0	33.0	19.5 (5.0)	6.4	35.3
8	33.7 (3.6)	26.4	41.6	32.0 (2.8)	26.0	39.0	33.0 (3.2)	27.4	41.9	32.2 (2.7)	26.6	38.5	29.2 (3.5)	21.9	36.9	20.0 (4.7)	6.9	30.5

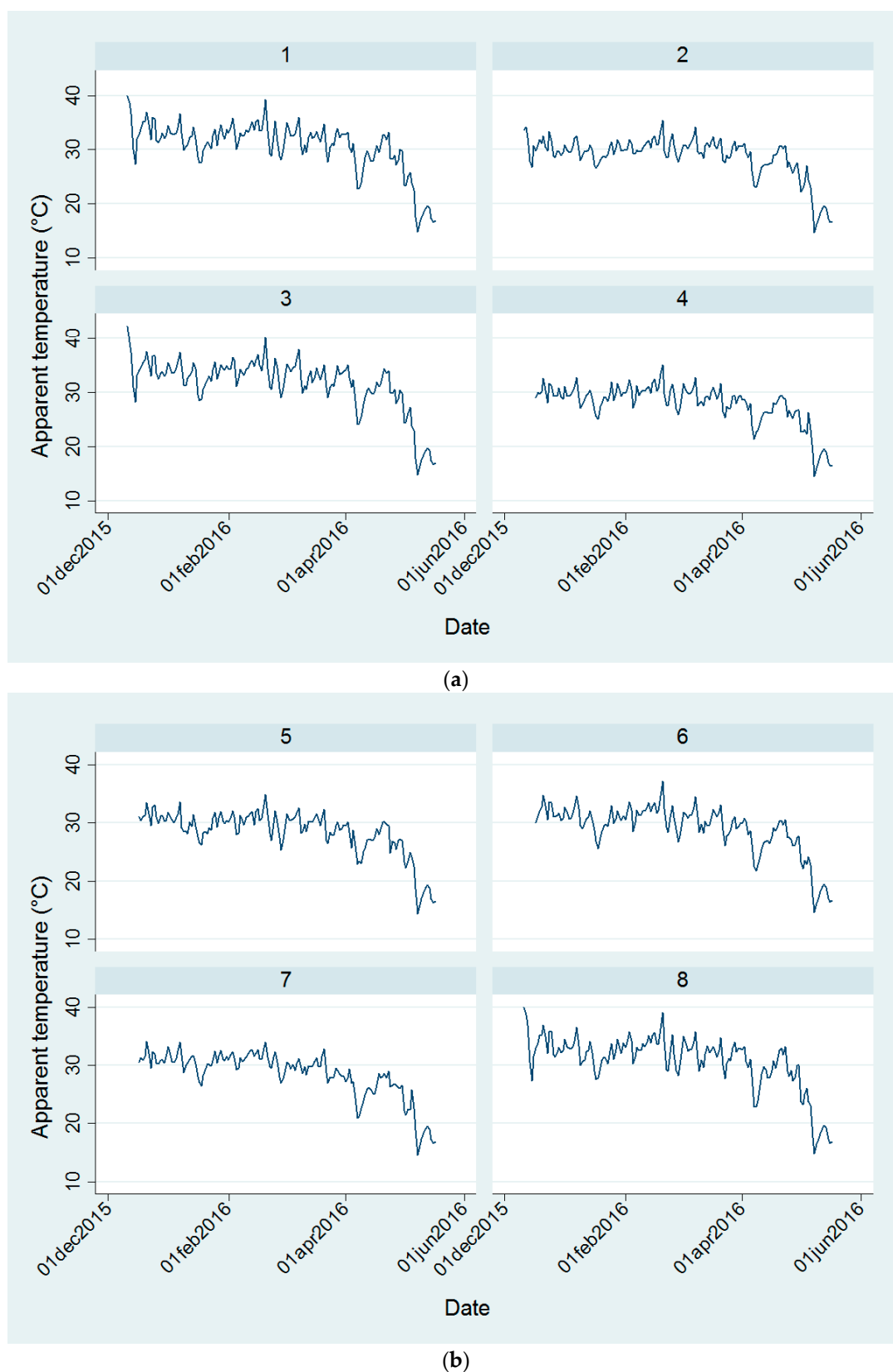


Figure S3. Indoor clinic apparent temperature. (a) Mean (over all time points) AT per day for clinics 1–4; (b) Mean (over all time points) AT per day for clinics 5–8.

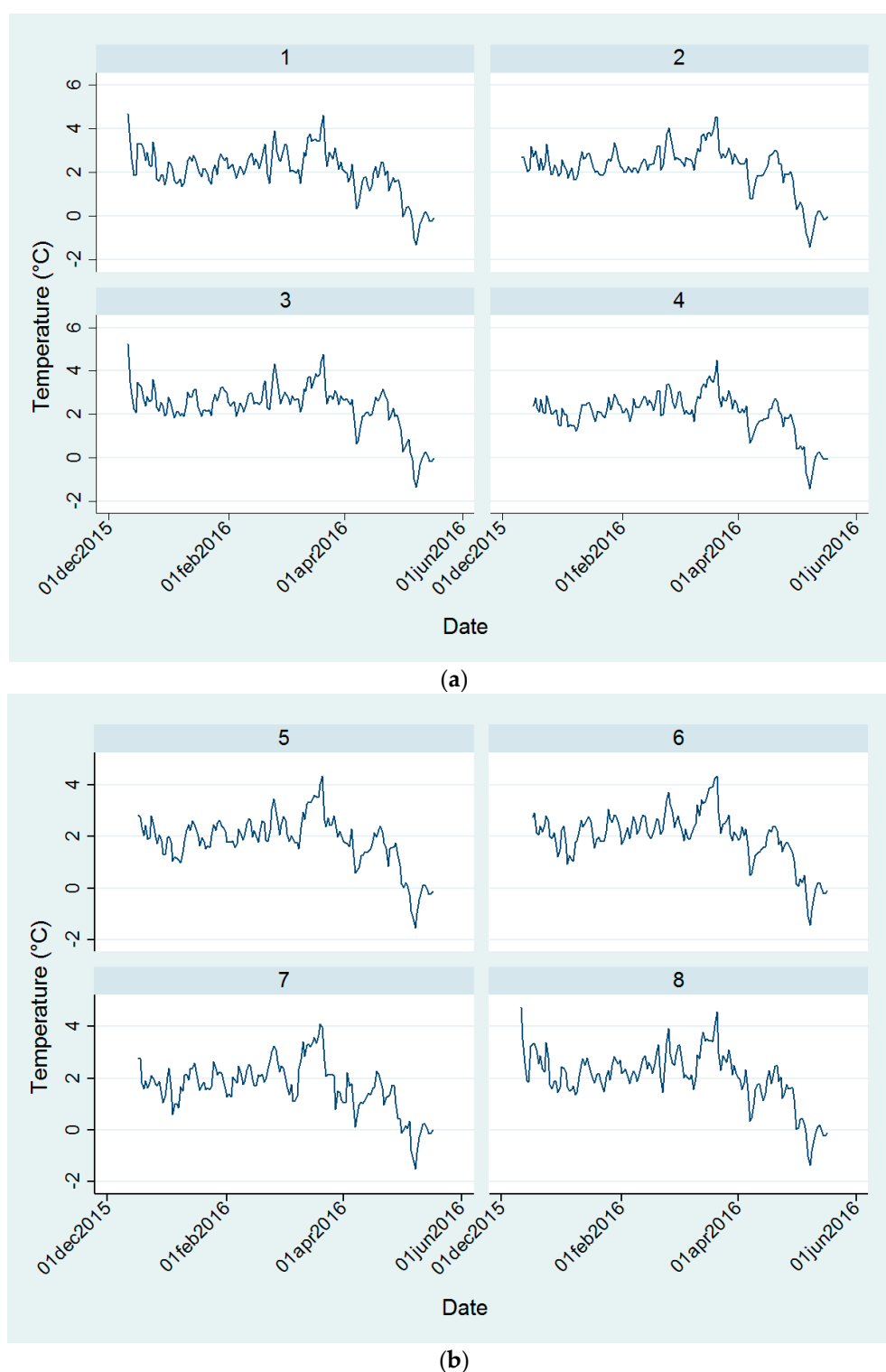
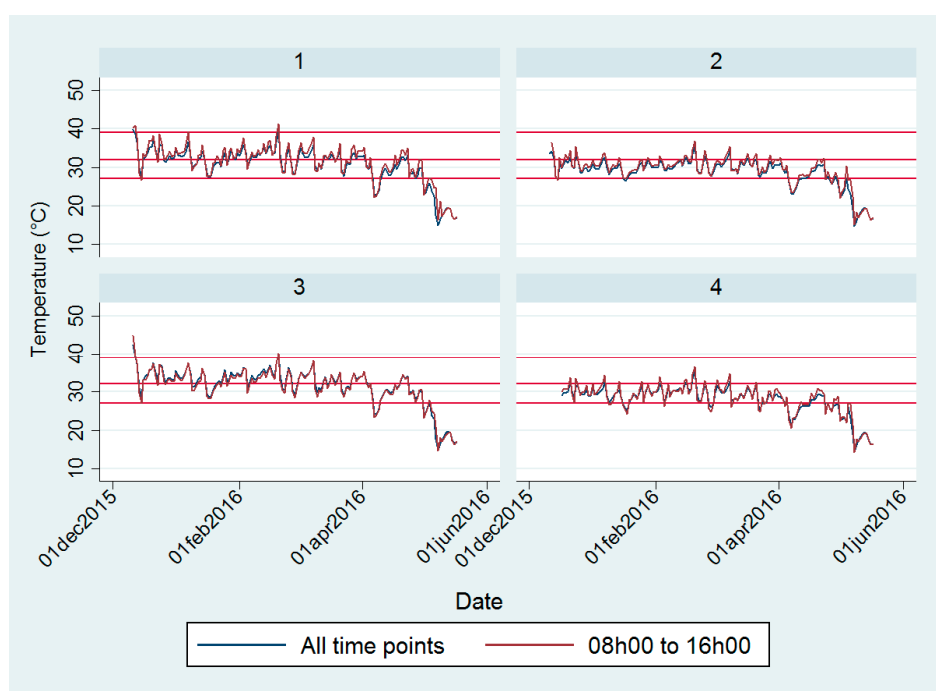
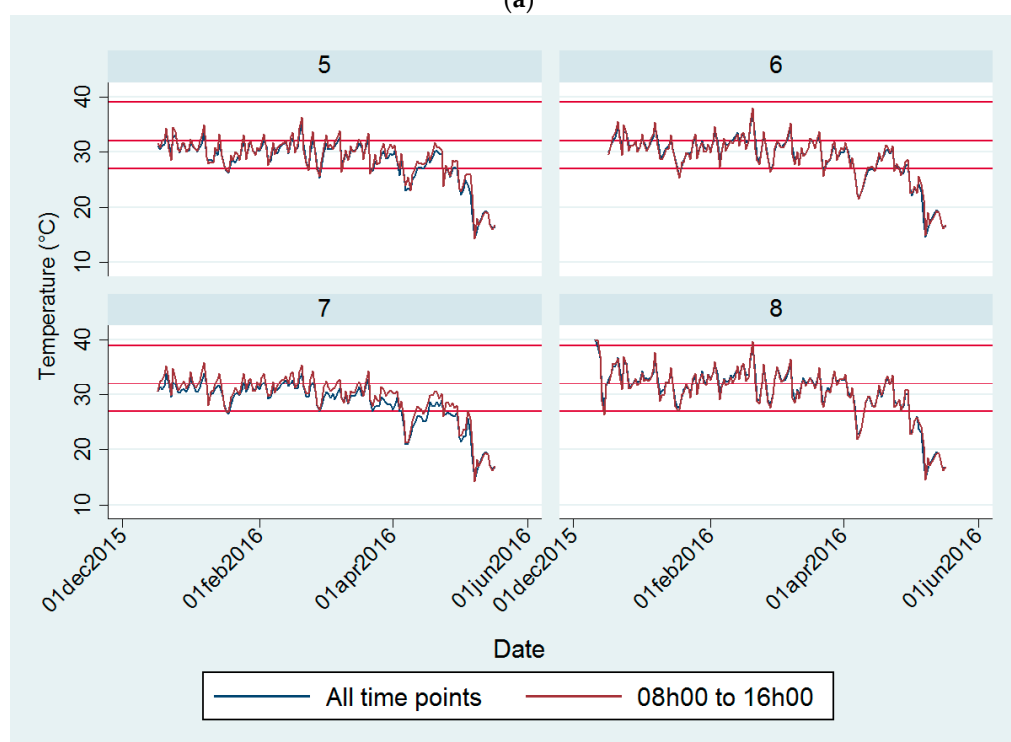


Figure S4. Differences between indoor clinic ambient apparent temperature and ambient temperature. (a) Mean (over all time points) difference between AT and ambient temperature per day for clinics 1–4; (b) Mean (over all time points) difference between AT and ambient temperature per day for clinics 5–8.



(a)



(b)

Figure S5. Mean apparent temperature during clinic open hours of 8h00 to 16h00 compared to mean apparent temperature during all hours of the day. (a) Mean (for the period 8h00 to 16h00) AT (red) and mean (over all time points) (blue) AT per day for clinics 1–4; (b) Mean (for the period 8h00 to 16h00) AT (red) and mean (over all time points) (blue) AT per day for clinics 5–8. Red lines on the plots depict symptom bands from Table 2 where symptom band I between 32–39 °C is Caution (bottom and middle lines) and symptom band II between 32–39 °C is Extreme caution (middle and top lines).