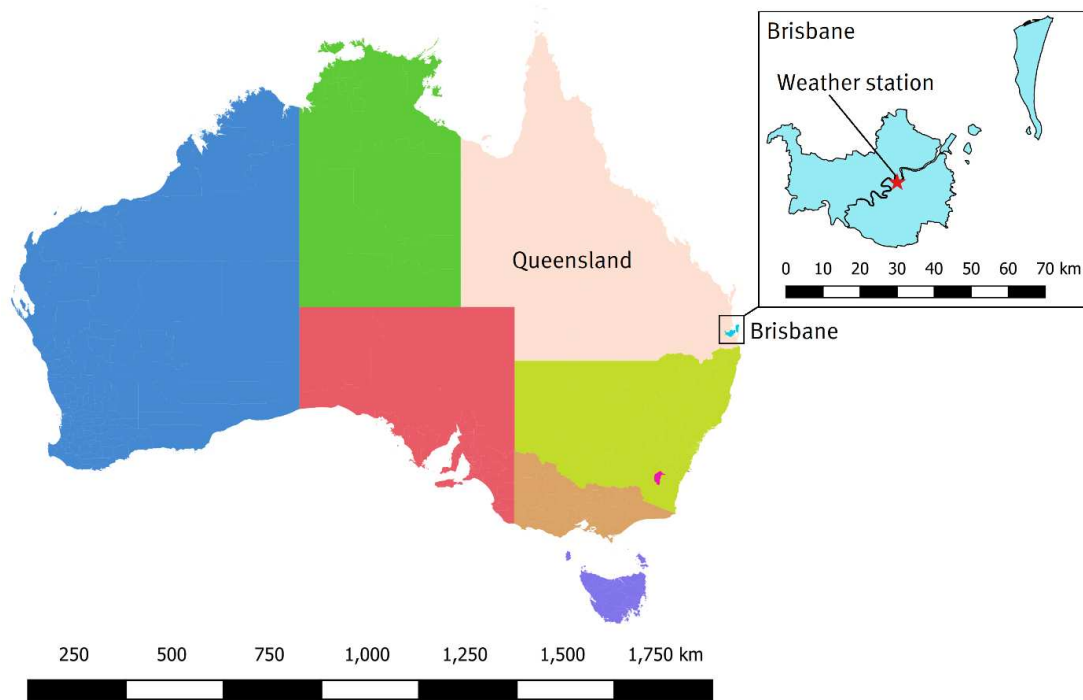
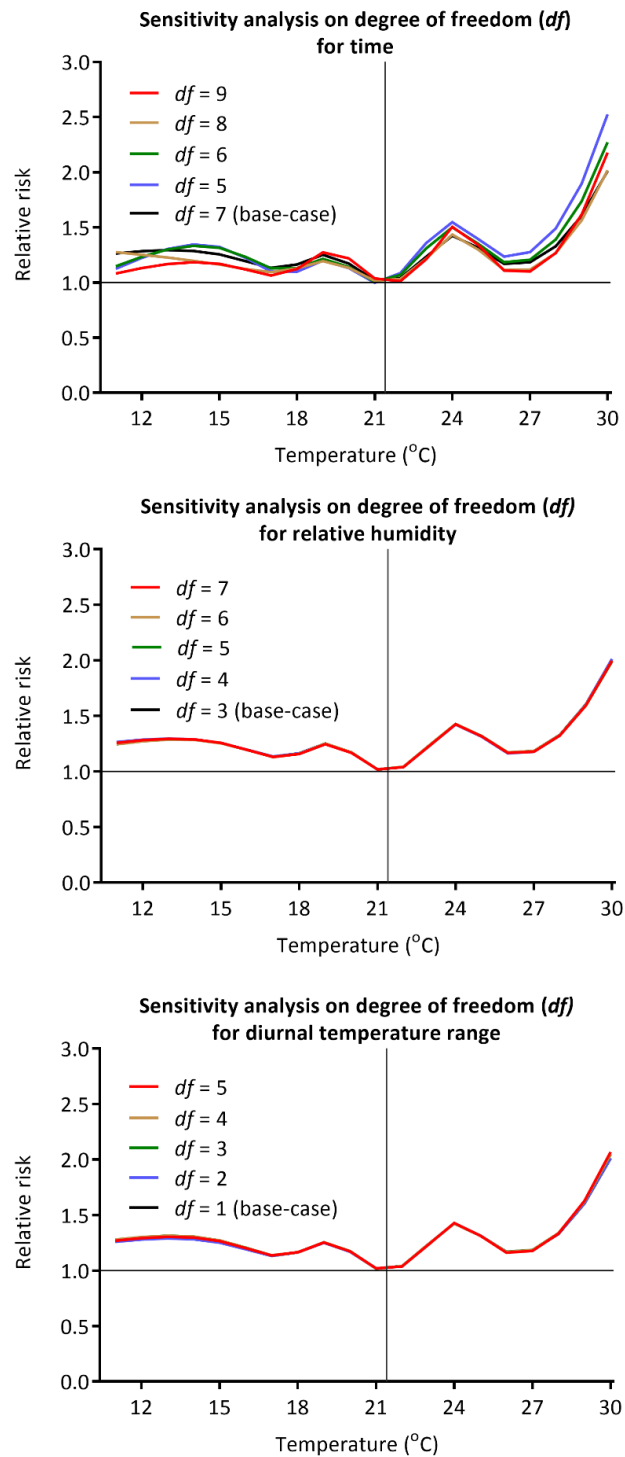


**Ambient temperatures, heatwaves, and out-of-hospital cardiac arrest in Brisbane, Australia**

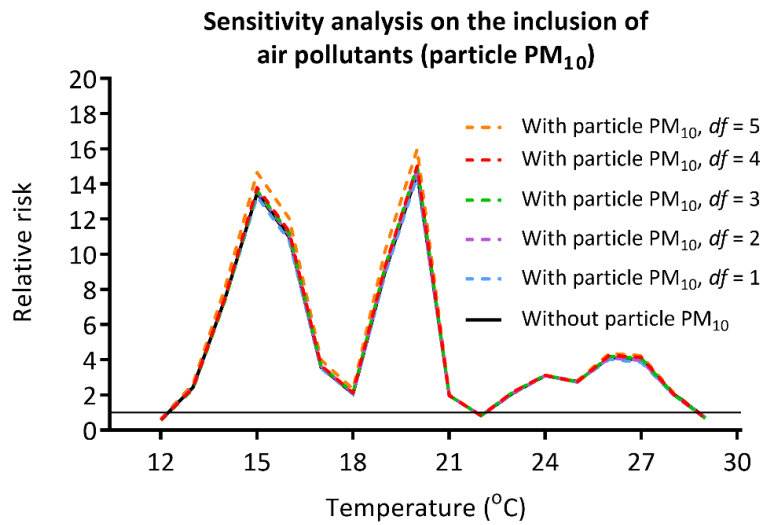
Tan N Doan, Daniel Wilson, Stephen Rashford, Emma Bosley

**Supplementary material**

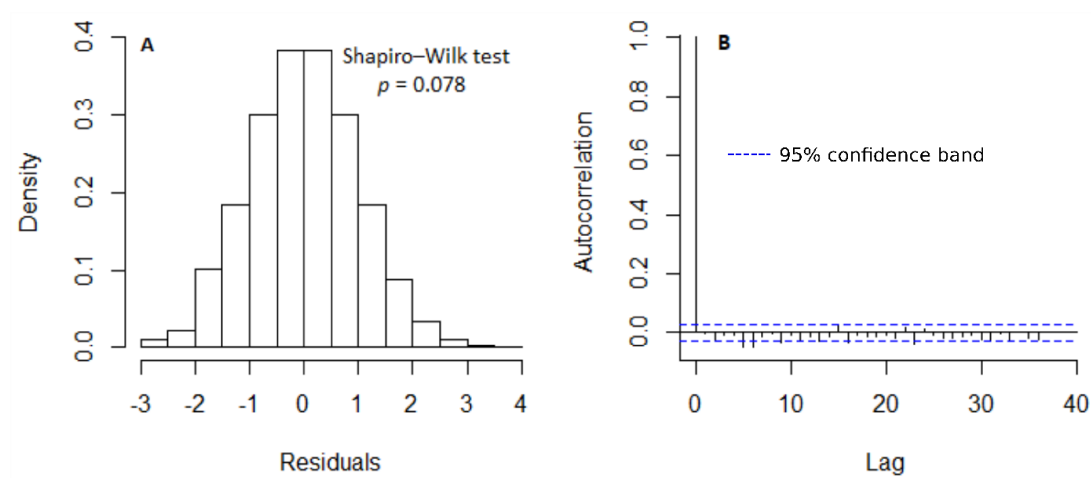
**Figure S1.** Map of Australia, the state of Queensland, the city of Brisbane, and the weather station from which Brisbane weather data were obtained.



**Figure S2.** Sensitivity analysis on degree of freedom (*df*) for time (top panel), relative humidity (middle panel), and diurnal temperature range (bottom panel). Shown is the overall effect of temperatures on the risk of out-of-hospital cardiac arrest. Vertical line indicates reference temperature (21.4 °C).



**Figure S3.** Sensitivity analysis on the inclusion of air pollutants (particle PM<sub>10</sub>) in the model. This analysis was performed on only a small subset of the study period for which information for particle PM<sub>10</sub> was available (1 January 2016 – 31 December 2019). As such, the results are not for epidemiological interpretation; rather it merely serves as an indication of how sensitive the model is to the inclusion/omission of air pollutant variables. *df*, degree of freedom.



**Figure S4.** Diagnostic plots of model residuals. (A) Histogram of residuals showing the residuals were normally distributed (Shapiro-Wilk test  $p = 0.078$ ). (B) Autocorrelation plot showing that the residuals appeared to be random.

**Table S1.** Numerical values of relative risk of out-of-hospital cardiac arrest for specific temperatures at different lags

Temp (°C)	Lag 0 RR (95% CI)	Lag 1 RR (95% CI)	Lag 2 RR (95% CI)	Lag 3 RR (95% CI)	Lag 4 RR (95% CI)	Lag 5 RR (95% CI)
11	1.06 (0.88-1.26)	1.09 (0.99-1.20)	1.10 (1.00-1.22)	1.08 (0.97-1.21)	1.02 (0.93-1.12)	0.96 (0.87-1.05)
12	1.04 (0.91-1.18)	1.07 (1.00-1.15)	1.09 (1.02-1.17)	1.08 (0.99-1.17)	1.03 (0.97-1.10)	0.98 (0.91-1.05)
13	1.02 (0.92-1.13)	1.05 (1.00-1.11)	1.08 (1.02-1.14)	1.08 (1.01-1.15)	1.04 (0.99-1.10)	1.00 (0.95-1.05)
14	1.00 (0.91-1.10)	1.04 (0.99-1.09)	1.07 (1.02-1.12)	1.07 (1.01-1.14)	1.05 (1.00-1.10)	1.01 (0.96-1.06)
15	0.99 (0.90-1.08)	1.03 (0.98-1.08)	1.06 (1.01-1.11)	1.06 (1.00-1.13)	1.04 (1.00-1.09)	1.01 (0.97-1.06)
16	0.98 (0.91-1.07)	1.02 (0.98-1.06)	1.04 (1.00-1.09)	1.05 (1.00-1.10)	1.03 (0.99-1.07)	1.01 (0.97-1.05)
17	0.98 (0.91-1.06)	1.01 (0.97-1.05)	1.03 (0.99-1.07)	1.04 (0.99-1.09)	1.02 (0.98-1.06)	0.99 (0.96-1.03)
18	0.98 (0.91-1.05)	1.01 (0.97-1.05)	1.04 (1.00-1.08)	1.04 (1.00-1.09)	1.02 (0.98-1.06)	0.99 (0.96-1.03)
19	0.97 (0.90-1.05)	1.02 (0.98-1.06)	1.05 (1.01-1.10)	1.06 (1.01-1.11)	1.04 (1.00-1.08)	1.01 (0.97-1.05)
20	0.98 (0.93-1.04)	1.01 (0.98-1.04)	1.04 (1.01-1.07)	1.04 (1.01-1.08)	1.03 (1.00-1.06)	1.01 (0.98-1.04)
21	1.00 (0.98-1.01)	1.00 (0.99-1.01)	1.01 (1.00-1.01)	1.01 (1.00-1.02)	1.00 (1.00-1.01)	1.00 (0.99-1.01)
21.4	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>	<i>Reference</i>
22	1.00 (0.97-1.03)	1.00 (0.98-1.02)	1.00 (0.98-1.02)	1.00 (0.98-1.03)	1.00 (0.98-1.02)	1.00 (0.98-1.02)
23	0.99 (0.92-1.06)	1.00 (0.97-1.04)	1.01 (0.97-1.05)	1.02 (0.97-1.06)	1.01 (0.97-1.05)	1.00 (0.97-1.04)
24	0.99 (0.93-1.06)	1.00 (0.97-1.04)	1.01 (0.97-1.05)	1.01 (0.97-1.05)	1.00 (0.97-1.04)	1.00 (0.97-1.04)
25	1.02 (0.95-1.09)	1.01 (0.97-1.04)	1.00 (0.96-1.04)	0.99 (0.95-1.04)	0.99 (0.96-1.03)	0.99 (0.96-1.03)
26	1.05 (0.97-1.13)	1.02 (0.98-1.06)	1.00 (0.96-1.04)	0.99 (0.94-1.04)	0.98 (0.94-1.02)	0.99 (0.95-1.03)
27	1.06 (0.97-1.16)	1.03 (0.98-1.08)	1.00 (0.96-1.05)	0.99 (0.93-1.04)	0.98 (0.94-1.02)	0.99 (0.95-1.03)
28	1.07 (0.97-1.20)	1.04 (0.98-1.09)	1.01 (0.96-1.06)	0.99 (0.93-1.05)	0.99 (0.94-1.04)	1.00 (0.95-1.05)
29	1.08 (0.92-1.26)	1.04 (0.96-1.13)	1.01 (0.94-1.10)	1.00 (0.91-1.10)	1.00 (0.93-1.08)	1.01 (0.94-1.09)
30	1.08 (0.86-1.36)	1.05 (0.93-1.19)	1.02 (0.91-1.15)	1.01 (0.88-1.16)	1.02 (0.91-1.14)	1.03 (0.92-1.16)

CI, confidence interval; RR, relative risk; Temp, temperature.