**Supplementary material**

Search parameters

Search parameters for PubMed and Scopus databases were “climate variables and *Salmonella* infections”, “climate change and *Shigella* infections”, “Precipitation and *Campylobacter* infections”, “climate change and *Listeria* infections” and “Climate change and *Vibrio* infections”. Filters included were “human” and “English”. The last search date for these databases was 7 July 2022. Web of Science search strategy included TS=climate AND (each organism) and English. The last date for this search was 29 July 2022. The search strategy for MEDLINE(Ovid) included two combined search terms: \**Salmonella*/ or *Shigella*.mp. or *Campylobacter*.mp. or *Vibrio*.mp. or *Listeria*.mp AND \*climate/ or temperature.mp. or precipitation.mp. or heatwaves.mp.  Only articles in English and on humans were included. The last date for the search for this database was 9 Ma

SUPPLEMENTARY MATERIAL

**Table S1- Qualitative analysis of studies in review using the ROBINS E-tool.**

| Study | Type of study | Risk of bias from confounding | Bias from missing data |  Exposure bias |  Selection bias | Outcome and reporting bias | Quality  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Auld 2004[45]
 | epidemiological |  |  |  |  |  | low |
| 1. Bi 2008[8]
 | Ecological  |  |  |  |  |  |  high |
| 1. Carev 2018[9]
 | surveillance |  |  |  |  |  |  high |
| 1. Colston 2020[46]
 | ITS |  |  |  |  |  |  moderate |
| 1. Djennad 2019[47]
 | Time series |  |  |  |  |  | moderate |
| 1. Kovats 2005[82]
 | Surveillance  |  |  |  |  |  |  high |
| 1. Kuhn 2020[2]
 | Surveillance  |  |  |  |  |  |  moderate |
| 1. Lake 2019[48]
 | Surveillance  |  |  |  |  |  |  high |
| 1. Nichols 2009[10]
 | Case crossover  |  |  |  |  |  | moderate |
| 1. Onozuka and Hashizume 2011[49]
 | Surveillance  |   |  |  |  |  |  high |
| 1. Park 2018[50]
 | Epidemiologic  |  |  |  |  |  |  moderate |
| 1. Patrick 2004[51]
 | Epidemiologic  |  |  |  |  |  |  moderate |
| 1. Rosenberg 2018[52]
 | Surveillance  |  |  |  |  |  |  high |
| 1. Sanderson 2018[53]
 | Epidemiologic  |  |  |  |  |  |  moderate |
| 1. Soneja 2016[3]
 | Surveillance  |  |  |  |  |  |  moderate |
| 1. Thomas 2006[54]
 | Case crossover |  |  |  |  |  |  moderate |
| 1. Vuckovic 2011[55]
 | Epidemiologic  |   |  |  |  |  |  High |
| 1. Weisent 2014[4]
 | Surveillance  |  |  |  |  |  |  high |
| 1. Tam 2005 [56]
 | Time series |  |  |  |  |  | High  |
| 1. Milazzo 2017[57]
 | Time series |  |  |  |  |  | High  |
| 1. Spencer et al 2012[58]
 | Time series |  |  |  |  |  | Moderate  |
| 1. White et al 2009 [59]
 | Time series |  |  |  |  |  | Low  |
| 1. Yun et al 2016[60]
 | Time series |  |  |  |  |  | Moderate  |
| 1. Aik 2018[22]
 | Time series |  |  |  |  |  |  moderate |
| 1. Akil 2014[1]
 | Time series |  |  |  |  |  | high |
| 1. Britton 2010[61]
 | epidemiologic |  |  |  |  |  | moderate |
| 1. Cherrie 2018[12]
 | Surveillance  |  |  |  |  |  | moderate |
| 1. Dewan 2013[17]
 | Time series |  |  |  |  |  | moderate |
| 1. Fleury 2006[11]
 | Time series |  |  |  |  |  | moderate |
| 1. Monter et al[62]
 | Modelling  |  |  |  |  |  | low |
| 1. Grjibovski 2013[63
 | Time series |   |  |  |  |  | high |
| 1. Iyer 2021[19]
 | epidemiologic |  |  |  |  |  | moderate |
| 1. Jiang 2015[5]
 | epidemiologic |  |  |  |  |  | high |
| 1. Kelly hope 2008[64]
 | epidemiologic |  |  |  |  |  | moderate |
| 1. Kendrovski 2011[14]
 | epidemiologic |  |  |  |  |  | high |
| 1. Liu 2018[20]
 | epidemiologic |  |  |  |  |  | high |
| 1. Milazzo et al 2016[23]
 | epidemiologic |  |  |  |  |  | high |
| 1. Morgado et al 2021[6]
 | epidemiologic |  |  |  |  |  | high |
| 1. Mun 2020[16]
 | epidemiologic |  |  |  |  |  | high |
| 1. Nili 2021[7]
 | ecological |  |  |  |  |  | moderate |
| 1. Ravel et al[13]
 | epidemiologic |  |  |  |  |  | moderate |
| 1. Robinson et al[18]
 | Time series |  |  |  |  |  | moderate |
| 1. Simpson et al 2019[65]
 | ecological |  |  |  |  |  | high |
| 1. Wang et al 2012[15]
 | epidemiologic |  |  |  |  |  | moderate |
| 1. Wang et al 2018[21]
 | Time series |  |  |  |  |  | high |
| 1. Zhang et al 2008[66]
 | surveillance |  |  |  |  |  | high |
| 1. Zhang et al 2010[67]
 | epidemiologic |  |  |  |  |  |  high |
| 1. Ai et al 2022[24]
 | Modelling  |  |  |  |  |  |  moderate |
| 1. Cheng et al 2017[25]
 | Modelling  |  |  |  |  |  |  high |
| 1. Gao et al2016[68]
 | modelling |  |  |  |  |  |  high |
| 1. Hines et al 2018[69]
 | Time series |  |  |  |  |  |  moderate |
| 1. Lee et al 2017[26]
 | Ecological study |  |  |  |  |  |  moderate |
| 1. Li et al 2016[27]
 | Modelling study |  |  |  |  |  |  moderate |
| 1. Liu et al 2017[83]
 | Modelling study |  |  |  |  |  | low |
| 1. Liu et al 2016[34]
 | Modelling study |  |  |  |  |  |  moderate |
| 1. Liu et al 2017[31]
 | Modelling study |  |  |  |  |  | low |
| 1. Liu et al 2020[33]
 | epidemiologic |  |  |  |  |  |  moderate |
| 1. Na et al 2016[40]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Naumova et al 2007[70]
 | Modelling study |  |  |  |  |  | high |
| 1. Wang et al 2021[15]
 | Modelling study |  |  |  |  |  | low |
| 1. Wang y et al 2021[28]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Wen et al 2016[29]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Zhang et al 2007[30]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Zhang et al 2017[44]
 | Modelling study |  |  |  |  |  | low |
| 1. Ali et al 2013[36]
 | Time series study |  |  |  |  |  | moderate |
| 1. Asadgol et al 2019[37]
 | Modelling study |  |  |  |  |  | high |
| 1. Baker et al 2013[71]
 | Modelling study |  |  |  |  |  | high |
| 1. Barachhini et al 2017[72]
 | Modelling study |  |  |  |  |  | low |
| 1. Bouma and Pascual 2001[73]
 | Modelling study |  |  |  |  |  | low |
| 1. Brehm et al 2021[43]
 | Retrospective cohort study |  |  |  |  |  | low |
| 1. Cash et al 2014[38]
 | Modelling study |  |  |  |  |  | high |
| 1. Davis et al 2021[41]
 | Case control study |  |  |  |  |  | moderate |
| 1. de Magny et al 2007[74]
 | Modelling study |  |  |  |  |  | low |
| 1. de Magny et al 2008[75]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Eisenberg et al 2013[42]
 | Modelling study |  |  |  |  |  | high |
| 1. Fernandez et al 2009[39]
 | Time series study |  |  |  |  |  | moderate |
| 1. Hashizume et al 2010[76]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Hashizume et al 2008[77]
 | Time series study |  |  |  |  |  | moderate |
| 1. Hsiao et al 2016[78]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Islam et al 2009[79]
 | Modelling study  |  |  |  |  |  | low |
| 1. Jutla et al 2015[80]
 | Modelling study |  |  |  |  |  | low |
| 1. Reyburn et al 2011[81]
 | Modelling study |  |  |  |  |  | moderate |
| 1. Ruiz-Moreno et al 2007[35]
 | Modelling study |  |  |  |  |  | low |

\*Epidemiologic studies are retrospective observational studies using available case and climate data

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