**Epidemiology and Infection**

Supplemental Materials

Investigating seasonal patterns in enteric infections: a systematic review of time series methods

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**Word Count:** 6312 words

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**Supplemental Table S1.** A list of all citations (n=220) included in our systematic literature review outlining advantages and limitations of common methods for estimating seasonal peak timing. Studies were original research articles that detected and estimated the seasonality of human gastrointestinal infections using local, regional, and national surveillance systems or hospital health records. We provide a citation identifier (CID) and the full citation for each study that is referred to within the manuscript. Studies are listed in the order of their appearance within the manuscript and then alphabetically for those not referenced.

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| **CID** | **Citation** |
| ***Citations Referenced in Manuscript Text (in order of appearance)*** | |
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**Supplemental Table S2.** Studies detecting seasonality and estimating peak timing using comparisons between 2 discrete seasons. Season lengths were either equal (6-month intervals) or unequal (often 3-month vs. 9-month seasons). Studies used incidence (i.e., semester divisions, spring/summer vs. fall/winter, high/low incidence) or environmental characteristics (i.e., wet/dry, warm/cool) to define seasons. Studies detected seasonality and estimated peak timing by identifying 1 season with higher average incidence or cumulative infections. Studies either did not conduct formal statistical comparison tests (denoted ‘none’) or compared seasons using formal statistical tests and odds ratio (OR) or incidence rate ratio (IRR) measures of association. Studies assessed either illnesses or outbreaks.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Definition of Season** | **Season Lengths** | **Study Years** | **How Seasonality Modeled** | **Statistical Tests Used** | **Outcome** | **Pathogen(s)** | **Country** |
| **Based on Incidence** |  |  |  |  |  |  |  |
| First Semester (January-June) vs. Second Semester (July-December) | Equal | 9 | Summary statistics by season | None | Outbreaks | *Cryptosporidium* | England and Wales |
| Spring/Summer (April-September) vs. Fall/Winter (October-March) | Equal | 5 | Summary statistics by season | Mann-Whitney rank-sum test | Outbreaks | *Norovirus* | United States |
| High Intensity (May-October) vs. Low Intensity (November-April) | Equal | 8 | Regression with binary variable | IRR | Illnesses | *Campylobacter* | United States |
| High Intensity (October-March) vs. Low Intensity (April-September) | Equal | 15 | Summary statistics by season | None | Illnesses | *Norovirus* | Japan |
| High Intensity (June-November) vs. Low Intensity (December-May) | Equal | 32 | Regression with binary variable | OR | Illnesses | *Vibrio* | Global |
| High Intensity (December-March) vs. Low Intensity (April-November) | Unequal | 6 | Regression with binary variable | OR | Illnesses | Gastroenteritis | United States |
| **Based on Other Characteristics** |  |  |  |  |  |  |  |
| Wet (April-September) vs.  Dry (October-March) | Equal | 6 | Regression with binary variable | OR | Illnesses | Rotavirus | Bangladesh |
| Wet (November-April) vs.  Dry (May-October) | Equal | 11 | Summary statistics by season | Χ2 test | Illnesses | *Campylobacter* | Malawi |
| Wet (October-March) vs.  Dry (April-September) | Equal | 13 | Regression with binary variable | OR | Illnesses | *Cryptosporidium; Giardia* | Canada |
| Wet (June-November) vs.  Dry (December-May) | Equal | 21 | Summary statistics by season | None | Illnesses | *Vibrio* | Bangladesh |
| Wet (July-October) vs.  Dry (November-June) | Unequal | 7 | Summary statistics by season | None | Illnesses | *Salmonella* | Thailand |
| Wet (June-August) vs.  Dry (September-May) | Unequal | 10 | Summary statistics by season | None | Illnesses | *Cyclospora* | Mexico |
| Wet (November-March) vs.  Dry (April-October) | Unequal | 10 | Summary statistics by season | Student’s t-test | Illnesses | Gastroenteritis | Botswana |
| Wet (June-September) vs.  Dry (October-May) | Unequal | 13 | Regression with binary variable | OR | Illnesses | *Salmonella* | India |
| Warm (May-October) vs.  Cool (November-April) | Equal | 7 | Summary statistics by season | None | Outbreaks | *Salmonella* | Japan |
| Warm (May-October) vs.  Cool (November-April) | Equal | 11 | Summary statistics by season | Χ2 test | Outbreaks | *Norovirus; Salmonella* | Spain |
| Warm vs. Cool  (Dates varied by study year) | Unequal | 23 | Regression with binary variable | IRR | Illnesses | *Salmonella* | Australia |
| Warm & Dry (December-March, July-August, December) vs.  Cool & Wet (April-June, September-November) | Equal | 4 | Regression with binary variable | OR | Illnesses | Rotavirus | Kenya |

**Supplemental Table S3.** A summary of studies detecting seasonality and estimating peak timing using comparisons between 4 discrete seasons. Studies often defined seasons using quarterly divisions named summer, fall, winter, and spring. We provide the definition of the highest-incidence season, often described as summer, in chronological order according to calendar month to illustrate differences in definitions by geographic location. Studies estimated peak timing by identifying the season with the highest average or median incidence or cumulative infections compared to other seasons. Studies either did not conduct formal statistical comparison tests (denoted ‘none’) or compared seasons using formal statistical tests and odds ratio (OR) or incidence rate ratio (IRR) measures of association. Studies assessed health outcomes including illnesses, hospitalizations, and outbreaks.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Definition of Summer or Highest-Incidence Season** | **Study Years** | **How Seasonality Modeled** | **Statistical Tests Used** | **Outcome(s)** | **Pathogen(s)** | **Country** |
| December 1st–February 1st | 26 | Regression with indicator variable | IRR | Illnesses | *Campylobacter* | Australia |
| December-February | 8 | Principal component analysis | Variable loadings | Illnesses | *Campylobacter* | New Zealand |
| December-February | 16 | Regression with indicator variable | IRR | Illnesses | *Campylobacter* | Australia |
| December-February | 20 | Summary statistics by season | None | Hospitalizations | *Campylobacter* | New Zealand |
| January-March | 3 | Summary statistics by season | None | Outbreaks | *Salmonella* | Brazil |
| April-June | 9 | Summary statistics by season | None | Outbreaks | Gastroenteritis | England and Wales |
| June-August | 1 | Summary statistics by season | None | Illnesses | *Campylobacter; E. coli; Salmonella; Shigella; Vibrio; Yersinia; Listeria* | United States |
| June-August | 1 | Summary statistics by season | None | Illnesses | *Campylobacter; E. coli; Salmonella; Shigella; Vibrio; Yersinia; Listeria* | United States |
| June-August | 1 | Summary statistics by season | None | Illnesses | *Campylobacter; E. coli; Salmonella; Shigella; Vibrio; Yersinia; Listeria* | United States |
| June-August | 1 | Summary statistics by season | None | Illnesses | *Campylobacter; E. coli; Salmonella; Vibrio; Yersinia; Listeria; Cyclospora; Shigella; Cryptosporidium* | United States |
| June-August | 1 | Summary statistics by season | None | Outbreaks | *Norovirus* | Ireland |
| June-August | 2 | Summary statistics by season | None | Illnesses | *E. coli* | United States |
| June-August | 2 | Summary statistics by season | None | Outbreaks | Gastroenteritis | China |
| June-August | 3 | Summary statistics by season | Χ2 test | Illnesses | *Salmonella* | United States |
| June-August | 4 | Summary statistics by season | None | Outbreaks | *Norovirus* | China |
| June-August | 4 | Regression with indicator variable | OR | Outbreaks | *E. coli* | United States |
| June-August | 6 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| June-August | 6 | Summary statistics by season | None | Outbreaks | *Campylobacter* | Australia |
| June-August | 6 | Regression with indicator variable | OR | Illnesses | *Salmonella* | Thailand |
| June-August | 7 | Regression with indicator variable | OR | Illnesses | *Listeria* | England and Wales |
| June-August | 7 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | United States |
| June-August | 8 | Summary statistics by season | Χ2 test | Illnesses | *E. coli* | United States |
| June-August | 9 | Summary statistics by season | None | Hospitalizations | *Norovirus*; Rotavirus | Republic of Korea |
| June-August | 9 | Regression with indicator variable | OR | Outbreaks | *Norovirus* | United States |
| June-August | 9 | Regression with indicator variable | IRR | Illnesses | *Salmonella; Campylobacter; E. coli* | Canada |
| June-August | 9 | Regression with indicator variable | IRR | Illnesses; Outbreaks | *Campylobacter* | United States |
| June-August | 10 | Summary statistics by season | None | Outbreaks | *E. coli* | United States; Canada |
| June-August | 10 | Summary statistics by season | None | Illnesses | *E. coli* | South Korea |
| June-August | 10 | Regression with indicator variable | OR | Illnesses | *Campylobacter* | United States |
| June-August | 11 | Summary statistics by season | Χ2 test | Outbreaks | *Salmonella* | England and Wales |
| June-August | 11 | Regression with indicator variable | IRR | Illnesses | *Campylobacter* | United States |
| June-August | 13 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| June-August | 14 | Summary statistics by season | None | Illnesses | *Yersinia* | United States |
| June-August | 15 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Denmark; Finland; Norway; Sweden |
| June-August | 17 | Summary statistics by season | Χ2 test | Outbreaks | *E. coli* | United States |
| June-August | 19 | Summary statistics by season | None | Illnesses | *Campylobacter* | United States |
| June-August | 26 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| June-August | 26 | Summary statistics by season | None | Illnesses | *Campylobacter; Salmonella* | Switzerland |
| June-August | 36 | Summary statistics by season | Χ2 test | Illnesses; Outbreaks | Gastroenteritis | United States |
| June-August | 47 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| June-September | 8 | Random forest classifier score | Random Forest | Outbreaks | *Vibrio* | India |
| June 15th-September 14th | 21 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| July-September | 1 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Poland |
| June-September | 3 | Summary statistics by season | None | Illnesses | *Campylobacter; E. coli; Listeria; Salmonella; Shigella; Yersinia* | United States |
| June-September | 3 | Summary statistics by season | None | Illnesses | Gastroenteritis | United States |
| July-September | 3 | Regression with indicator variable | OR | Illnesses | *Vibrio* | United States |
| July-September | 4 | Summary statistics by season | None | Illnesses | *Shigella* | United States |
| July-September | 7 | Regression with indicator variable | OR | Illnesses | *Yersinia* | United States |
| July-September | 7 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | Canada |
| July-September | 10 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| July-September | 10 | Summary statistics by season | ANOVA | Illnesses | *Salmonella* | United States |
| July-October | 3 | Summary statistics by season | None | Illnesses | *Giardia* | United States |
| July-October | 3 | Summary statistics by season | None | Illnesses | *Giardia* | United States |
| Not Specified | 1 | Summary statistics by season | None | Illnesses | *Campylobacter* | Canada |
| Not Specified | 2 | Summary statistics by season | None | Illnesses | Gastroenteritis | Canada |
| Not Specified | 2 | Summary statistics by season | None | Illnesses | *Salmonella* | Canada |
| Not Specified | 2 | Summary statistics by season | Χ2 test | Illnesses | Gastroenteritis | Iran |
| Not Specified | 2 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Ireland |
| Not Specified | 2 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| Not Specified | 2 | Summary statistics by season | None | Outbreaks | *Shigella; Salmonella; Norovirus; E. coli* | United States |
| Not Specified | 4 | Summary statistics by season | None | Illnesses | *Giardia* | New Zealand |
| Not Specified | 4 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| Not Specified | 4 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | Iran |
| Not Specified | 4 | Summary statistics by season | None | Outbreaks | *Vibrio* | Taiwan |
| Not Specified | 5 | Summary statistics by season | None | Outbreaks | *Norovirus* | European Union |
| Not Specified | 5 | Summary statistics by season | None | Outbreaks | *Norovirus* | United States |
| Not Specified | 6 | Summary statistics by season | Χ2 test | Illnesses | *Campylobacter; Salmonella; E. coli* | Canada |
| Not Specified | 8 | Regression with indicator variable | IRR | Illnesses | *Campylobacter* | United States |
| Not Specified | 10 | Summary statistics by season | None | Illnesses; Outbreaks | Gastroenteritis | Canada |
| Not Specified | 10 | Regression with indicator variable | IRR | Illnesses | *Campylobacter* | Czech Republic |
| Not Specified | 10 | Summary statistics by season | None | Outbreaks | *Norovirus* | Japan |
| Not Specified | 11 | Regression with indicator variable | IRR | Illnesses | Ciguatera fish poisoning | United States |
| Not Specified | 16 | Summary statistics by season | None | Illnesses | *Norovirus* | South Korea |
| Not Specified | 18 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | United States |
| Not Specified | 19 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | United States |
| Not Specified | 30 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |

**Supplemental Table S4.** A summary of studies detecting seasonality and estimating peak timing by comparing discrete monthly records. We report studies by increasing time series length, which varied from 1-61 years. Studies estimated peak timing by identifying the month with the highest average or median incidence or cumulative infections. Most studies did not formally compare calendar months when examining peak timing. Studies either did not conduct formal statistical comparison tests (denoted ‘none’) or compared seasons using formal statistical tests and odds ratio (OR) or incidence rate ratio (IRR) measures of association. Studies assessed numerous health outcomes including tests, illnesses, per cent positives, hospitalizations, outbreaks, and deaths.

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| --- | --- | --- | --- | --- | --- |
| **Study Years** | **How Seasonality Modeled** | **Statistical Tests Used** | **Outcome(s)** | **Pathogen(s)** | **Country** |
| 1 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | European Union |
| 1 | Summary statistics by season | None | Illnesses | *Salmonella* | China |
| 1 | Summary statistics by season | None | Illnesses | *Salmonella* | China |
| 1 | Summary statistics by season | None | Illnesses | *Salmonella* | Poland |
| 1 | Summary statistics by season | None | Illnesses | *Shigellosis* | Poland |
| 1 | Summary statistics by season | None | Illnesses | *Salmonella* | Belgium |
| 1 | Summary statistics by season | None | Illnesses; Outbreaks | Gastroenteritis | United States |
| 1 | Summary statistics by season | None | Illnesses; Outbreaks | *Salmonella* | Belgium |
| 1 | Summary statistics by season | None | Hospitalizations | *Cyclospora* | China |
| 1 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| 2 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 2 | Summary statistics by season | None | Illnesses | *Giardia* | United States |
| 2 | Summary statistics by season | None | Illnesses | *Giardia* | United States |
| 2 | Summary statistics by season | None | Illnesses | *Norovirus* | Japan |
| 2 | Summary statistics by season | None | Illnesses | *Salmonella* | Poland |
| 2 | Summary statistics by season | None | Outbreaks | *Norovirus; Campylobacter* | Finland |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | England |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | Kuwait |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 3 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 3 | Regression with indicator variable | OR | Illnesses | *Salmonella* | Canada |
| 3 | Summary statistics by season | None | Deaths | Gastroenteritis | United States |
| 3 | Summary statistics by season | None | Outbreaks | *Norovirus* | United States |
| 4 | Summary statistics by season | None | Illnesses | *Campylobacter* | United States |
| 4 | Summary statistics by season | None | Illnesses | *Campylobacter* | United States |
| 4 | Summary statistics by season | None | Illnesses | *Yersinia* | United States |
| 4 | Regression with indicator variable | OR | Illnesses | Gastroenteritis | Canada |
| 4 | Summary statistics by season | None | Illnesses; Outbreaks | Gastroenteritis | Australia |
| 4 | Summary statistics by season | None | Outbreaks | Gastroenteritis | France |
| 4 | Summary statistics by season | Mann-Whitney rank-sum test | Positivity Rates | Microsporidia | United States |
| 5 | Summary statistics by season | None | Illnesses | *Campylobacter; Salmonella; E. coli; Shigella; Yersinia; Listeria*; Hepatitis A; *Clostridium* | Canada |
| 5 | Summary statistics by season | None | Illnesses | *Salmonella* | China |
| 5 | Summary statistics by season | None | Illnesses | *Vibrio* | Ghana |
| 5 | Summary statistics by season | None | Illnesses; Outbreaks | *Cyclospora* | United States |
| 5 | Summary statistics by season | None | Outbreaks | *Calicivirus; Norovirus* | United States |
| 5 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Italy |
| 6 | Summary statistics by season | None | Illnesses | *Campylobacter; Salmonella* | South Korea |
| 7 | Summary statistics by season | None | Illnesses | *Cronobacter* | United States |
| 7 | Summary statistics by season | None | Illnesses | *Salmonella* | Italy; France; Switzerland |
| 7 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| 8 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | Ireland |
| 8 | Summary statistics by season | None | Illnesses | *Yersinia* | Germany |
| 9 | Summary statistics by season | None | Illnesses | *Salmonella* | Canada |
| 9 | Summary statistics by season | None | Outbreaks | Gastroenteritis | England and Wales |
| 9 | Summary statistics by season | None | Outbreaks | *Norovirus* | England and Wales |
| 10 | Regression with indicator variable | OR | Tests; Per cent Positives | *Campylobacter; Salmonella* | Switzerland |
| 10 | Summary statistics by season | None | Illnesses | *Vibrio* | Taiwan |
| 10 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| 10 | Summary statistics by season | None | Outbreaks | *Salmonella* | Scotland |
| 11 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| 11 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | Australia |
| 12 | Summary statistics by season | None | Illnesses | *Cyclospora* | United States |
| 12 | Summary statistics by season | None | Illnesses | Gastroenteritis | Cameroon |
| 12 | Summary statistics by season | None | Outbreaks | *Campylobacter* | United States |
| 13 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | United States |
| 13 | Summary statistics by season | None | Illnesses | *Cyclospora* | United States |
| 13 | Summary statistics by season | None | Illnesses; Outbreaks | *Giardia* | United States |
| 13 | Summary statistics by season | None | Outbreaks | *Clostridium* | United States |
| 14 | Summary statistics by season | None | Illnesses | *Campylobacter* | Israel |
| 14 | Summary statistics by season | None | Illnesses | *Cryptosporidium* | Israel |
| 14 | Regression with indicator variable | IRR | Illnesses; Outbreaks; Hospitalizations; Deaths | *Salmonella* | Spain |
| 15 | Summary statistics by season | None | Illnesses | *Vibrio* | United States |
| 15 | Summary statistics by season | None | Outbreaks | Gastroenteritis | South Korea; Japan |
| 16 | Summary statistics by season | None | Illnesses | *Campylobacter* | Denmark |
| 16 | Regression with indicator variable | IRR | Illnesses | *Salmonella* | Norway |
| 16 | Summary statistics by season | None | Outbreaks | Gastroenteritis | United States |
| 18 | Summary statistics by season | None | Illnesses; Hospitalizations | *Salmonella* | Poland |
| 19 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Japan |
| 20 | Summary statistics by season | None | Illnesses | *Salmonella* | United States |
| 20 | Summary statistics by season | None | Outbreaks | *Norovirus* | Japan |
| 26 | Summary statistics by season | None | Illnesses | *Vibrio* | United States |
| 26 | Summary statistics by season | None | Deaths | *Listeriosis* | United States |
| 27 | Summary statistics by season | None | Outbreaks | Gastroenteritis | Canada |
| 30 | Summary statistics by season | None | Outbreaks | Gastroenteritis | England and Wales |
| 40 | Summary statistics by season | None | Outbreaks | *Salmonella* | United States |
| 44 | Summary statistics by season | None | Illnesses | Brucellosis | Germany |
| 61 | Summary statistics by season | None | Outbreaks | Botulism | United States |

**Supplemental Table S5.** A summary of studies describing seasonality as a continuous process where seasonal curves were modeled using: i) moving average and kernel density smoothers; ii) cubic splines; iii) seasonal trend decomposition (STL); iv) seasonal autoregressive integrated moving average (SARIMA) models; v) Fourier series and harmonic logistic regression models; and vi) spectral analyses. The temporal resolution data ranged from daily to monthly time units. Studies assessed a variety of health outcomes including illnesses, hospitalizations, and outbreaks.

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| --- | --- | --- | --- | --- | --- | --- |
| **How Data Modeled** | **How Seasonality Modeled** | **Study Years** | **Temporal Resolution** | **Outcome(s)** | **Pathogen(s)** | **Country** |
| Poisson regression model with cubic spline | Visual inspection | 9 | Weekly | Illnesses | Gastroenteritis | United States |
| Poisson regression model with cubic spline | Visual inspection | 9 | Monthly | Illnesses | *Cryptosporidium* | Australia |
| Poisson regression model with cubic spline | Visual inspection | 10 | Daily | Illnesses | *Campylobacter* | England and Wales |
| Poisson regression model with cubic spline | Visual inspection | 22 | Monthly | Illnesses | *Vibrio* | Nigeria |
| Moving average smoother | Visual inspection | 2 | Monthly | Illnesses | *Salmonella* | Canada |
| Kernel density smoother | Visual inspection | 9 | Weekly | Illnesses | *Campylobacter* | European Union |
| Seasonal Trend Decomposition | Visual Inspection | 8 | Monthly | Illnesses | *Campylobacter* | United States |
| Seasonal Trend Decomposition | Visual Inspection | 9 | Monthly | Illnesses | *E. coli.* | United States |
| ARIMA regression | Seasonal autoregressive model parameters | 3 | Monthly | Illnesses | Gastroenteritis | South Korea |
| ARIMA regression | Seasonal autoregressive model parameters | 5 | Monthly | Hospitalizations | Gastroenteritis | South Korea |
| ARIMA regression | Seasonal autoregressive model parameters | 7 | Monthly | Illnesses | *Giardia* | United States |
| ARIMA regression | Seasonal autoregressive model parameters | 10 | Daily | Illnesses | *Salmonella* | Australia |
| ARIMA regression | Seasonal autoregressive model parameters | 11 | Monthly | Illnesses | *Vibrio* | India |
| ARIMA regression | Seasonal autoregressive model parameters | 12 | Monthly | Illnesses | *Salmonella* | France |
| ARIMA regression | Seasonal autoregressive model parameters | 12 | Monthly | Outbreaks | *Vibrio* | Taiwan |
| Fourier series | Significant harmonic term coefficients | 3 | Daily | Illnesses | Gastroenteritis | England |
| Fourier series | Significant harmonic term coefficients | 5 | Monthly | Illnesses | *Campylobacter* | Canada |
| Fourier series | Significant harmonic term coefficients | 10 | Daily | Illnesses | Rotavirus | Bangladesh, Brazil, India, Nepal, Pakistan, Peru, Tanzania, South Africa |
| Fourier series | Significant harmonic term coefficients | 11 | Monthly | Illnesses | *Campylobacter* | United Kingdom |
| Fourier series | Significant harmonic term coefficients | 20 | Weekly | Illnesses | *Salmonella* | European Union |
| Fourier series | Application of the δ-methods | 14 | Weekly | Illnesses | *Campylobacter* | United States |
| Linear regression model | Significant harmonic term coefficients | 2 | Monthly | Illnesses | *Salmonella* | France; United States |
| Linear regression model | Significant harmonic term coefficients | 9 | Monthly | Illnesses | *Giardia* | Mexico |
| Negative binomial regression model | Significant harmonic term coefficients | 10 | Monthly | Illnesses | *Salmonella* | United States |
| Negative binomial regression model | Significant harmonic term coefficients | 11 | Daily | Illnesses | *E. coli* | Norway |
| Negative binomial regression model | Significant harmonic term coefficients | 11 | Weekly | Illnesses | *Salmonella* | Singapore |
| Negative binomial regression model | Significant harmonic term coefficients | 18 | Monthly | Illnesses | *Vibrio* | United States |
| Negative binomial regression model | Application of the δ-methods | 6 | Monthly | Illnesses | Rotavirus | Costa Rica |
| Negative binomial regression model | Application of the δ-methods | 8 | Daily | Illnesses | *Salmonella* | Russia |
| Negative binomial regression model | Application of the δ-methods | 16 | Weekly | Illnesses | *Vibrio* | India |
| Negative binomial regression model | Application of the δ-methods | 22 | Monthly | Illnesses | *Campylobacter; Salmonella; Cryptosporidium; E. coli; Shigella; Yersinia; Vibrio; Listeria; Cyclospora* | United States |
| Poisson regression model | Application of the δ-methods | 2 | Weekly | Illnesses | Gastroenteritis | India |
| Poisson regression model | Significant harmonic term coefficients | 4 | Daily | Illnesses | *Vibrio* | Haiti |
| Poisson regression model | Significant harmonic term coefficients | 3 | Daily | Illnesses | *Campylobacter* | England |
| Poisson regression model | Significant harmonic term coefficients | 6 | Monthly | Illnesses | *Cryptosporidium* | Canada |
| Poisson regression model | Significant harmonic term coefficients | 11 | Weekly | Illnesses | *Salmonella* | New Zealand |
| Poisson regression model | Significant harmonic term coefficients | 12 | Weekly | Illnesses | *Campylobacter* | Israel |
| Poisson regression model | Significant harmonic term coefficients | 13 | Daily | Illnesses | *Salmonella; Campylobacter* | Denmark |
| Poisson regression model | Application of the δ-methods | 2 | Weekly | Illnesses | Gastroenteritis | India |
| Poisson regression model | Application of the δ-methods | 7 | Daily | Illnesses | Rotavirus | Russia |
| Poisson regression model | Application of the δ-methods | 10 | Daily | Illnesses | *Giardia; Cryptosporidium; Salmonella; Campylobacter; Shigella;* Hepatitis A | United States |
| Poisson regression model | Application of the δ-methods | 14 | Weekly | Hospitalizations | Gastroenteritis | United States |
| Poisson regression model | Application of the δ-methods | 14 | Weekly | Hospitalizations | Gastroenteritis | United States |
| Poisson regression model | Application of the δ-methods | 14 | Weekly | Hospitalizations | *Salmonella* | United States |
| Poisson regression model | Application of the δ-methods | 14 | Weekly | Hospitalizations | *Salmonella* | United States |
| Poisson regression model | Application of the δ-methods | 14 | Weekly | Hospitalizations | *Salmonella* | United States |
| Spectral analysis | Significant harmonic term coefficients | 6 | Monthly | Illnesses | *Campylobacter* | Finland |