**COVID\_ALERTS**

1. **Description**

The script ‘covid\_alerts.bat’ will generate alerts when any of the alarm criteria listed in section 2. are met for the currently available COVID-19 data. This script in turn relies on the following python utility:

* general\_alerts.py
  1. **general\_alerts.py**

The ‘general\_alerts.py’ utility uses the NHS covid\_19 API for retrieving data for the ‘overview’ and ‘ltla’ ‘areaTypes’. The user must add the name(s) of any NHS ltla’s (Lower Tier Local Authority) for which they wish to monitor COVID-19 data in the ./config/general\_alert.csv configuration file. The rolling period used in this utility is set at 7 days but may be adjusted in most instances by changing the value ‘Rolling’ set in the script configuration file. Any increase in rolling values is measured over the last two rolling periods whilst any assessment of the absolute rolling value is done against the latest rolling period.

Values of R greater than 1 are inferred by exponential growth in daily case numbers. Exponential growth is deemed to have occurred when a plot of the natural logs of ‘7-day’ averages over 7 days is judged to show linear growth. For a particular date the ‘7-day’ average is calculated by adding the daily case numbers from three days before through to three days after that date and dividing by 7. This calculation of a ‘7-day’ average means that the most recent date at which an R number greater than 1 can be determined is a week before the current date. The rolling period for this calculation is fixed at 7 days and cannot be changed by altering configuration item ‘Rolling’.

1. **Alarm criteria**

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| **Criteria** | **Utility** | **Configuration Required** | **areaType** |
| An increase in 500 in the rolling number of cases | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  RollingCasesIncreaseLimit | overview |
| A rolling cases value greater than 280000 | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  RollingCasesLimit | overview |
| An increase in the rolling deaths greater than 100 | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  RollingDeathsIncreaseLimit | overview |
| A rolling deaths value greater than 900 | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  RollingDeathsLimit | overview |
| An increase of 0.02% in the rolling percentage of positive tests | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  RollingPositiveRateIncreaseLimit | overview |
| A rolling percentage of positive tests of greater than 5 % | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  RollingPositiveRateLimit | overview |
| The R number is likely to be above 1 | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  ExponentialSensitivity | overview |
| An increase of 50 in the rolling number of cases | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  LTLARollingCasesIncreaseLimit | ltla |
| A rolling cases value greater than 600 | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  LTLARollingCasesLimit | ltla |
| An increase of 5 in the rolling number of deaths | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  LTLARollingDeathsIncreaseLimit | ltla |

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| A rolling deaths value of greater than 5. | general\_alerts.py | ./config/general\_alerts.csv  Line 1 + Line 2:  LTLARollingDeathsLimit | ltla |
| The R number is likely to be above 1 | general\_alerts.py | ./config/general\_alerts.csv  Line 2:  ExponentialSensitivity | Ltla |