CaseRegression

Marlin

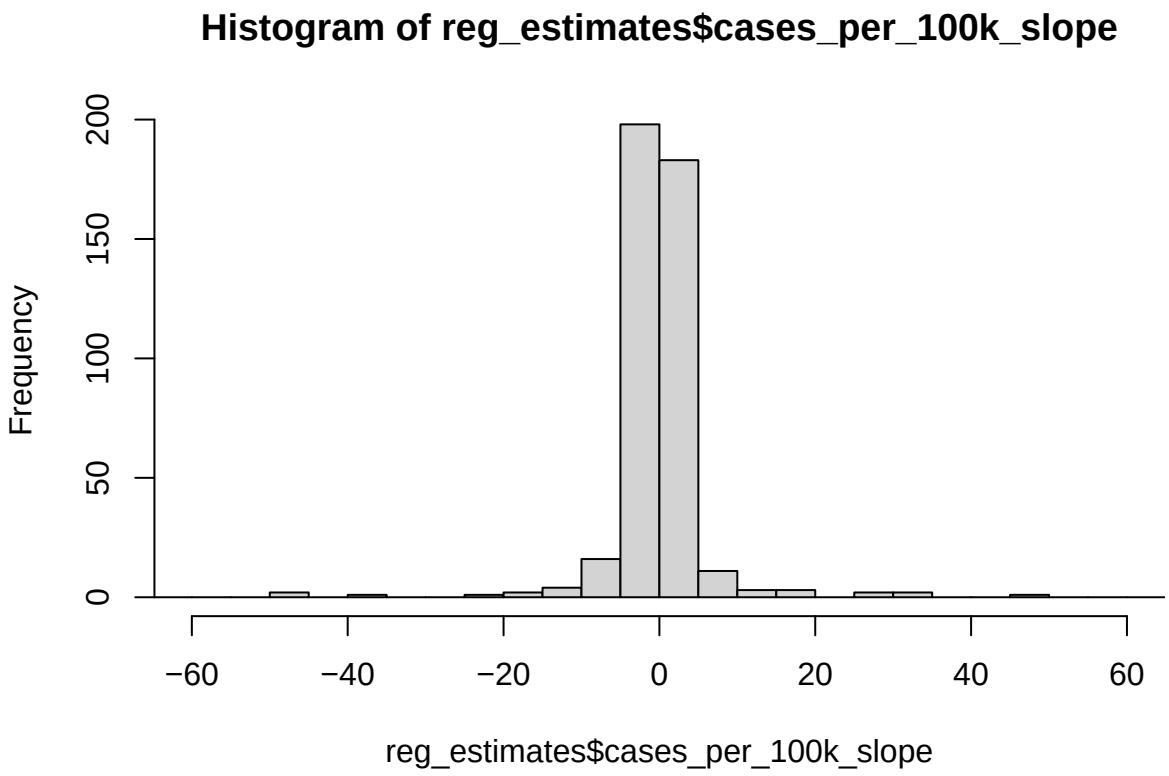
2022-07-27

```
## [1] 1
```

```
## # A tibble: 6 x 10
## # Groups:   WWTP [1]
##   date       WWTP  cases cases~1 pastw~2 pastw~3 variant mean_~4 pastw~5 pastw~6
##   <date>     <chr> <int>   <dbl>   <dbl>   <int> <chr>     <dbl>   <dbl>   <dbl>
## 1 2021-02-01 Madi~    40    10.5    84.7     593 Alpha/~  380000    22.3    156.
## 2 2021-02-02 Madi~    65    17.1    86.1     603 Alpha/~  380000    22.7    159.
## 3 2021-02-03 Madi~   159    41.8    85.4     598 Alpha/~  380000    22.5    157.
## 4 2021-02-04 Madi~    93    24.5    85       595 Alpha/~  380000    22.4    157.
## 5 2021-02-05 Madi~    76    20      81       567 Alpha/~  380000    21.3    149.
## 6 2021-02-06 Madi~    64    16.8    78.4     549 Alpha/~  380000    20.6    144.
## # ... with abbreviated variable names 1: cases_per_100k,
## #   2: pastwk.avg.casesperday, 3: pastwk.sum.casesperday, 4: mean_pop_served,
## #   5: pastwk.avg.casesperday.per100k, 6: pastwk.sum.casesperday.per100k
```

```
##         date    Site FirstConfirmed Population FirstConfirmed.Per100K
## 1 2021-02-01 Madison             40     380000               10.52632
## 2 2021-02-02 Madison             65     380000               17.10526
## 3 2021-02-03 Madison            159     380000               41.84211
## 4 2021-02-04 Madison             93     380000               24.47368
## 5 2021-02-05 Madison             76     380000               20.00000
## 6 2021-02-06 Madison             64     380000               16.84211
##   pastwk.sum.casesperday.Per100K
## 1                             NA
## 2                             NA
## 3                             NA
## 4                             NA
## 5                             NA
## 6                             NA
```

```
## [1] "Madison"
```

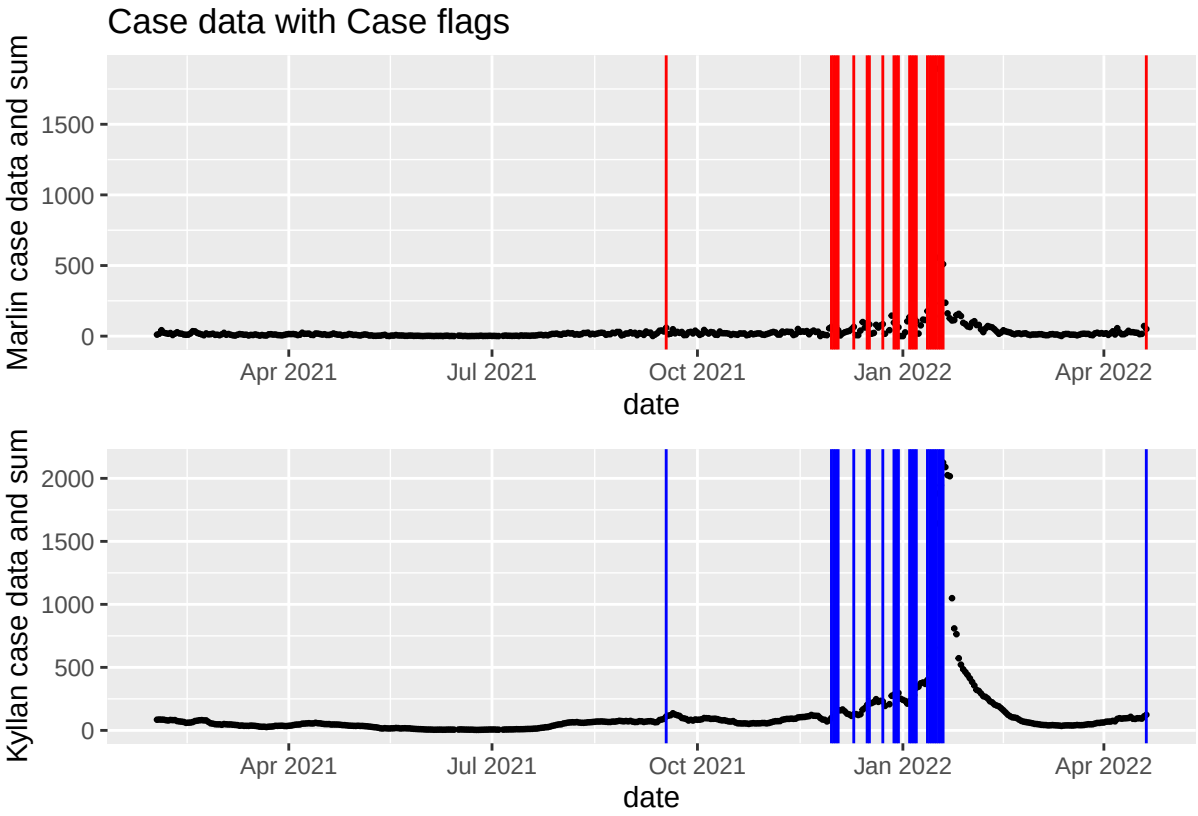


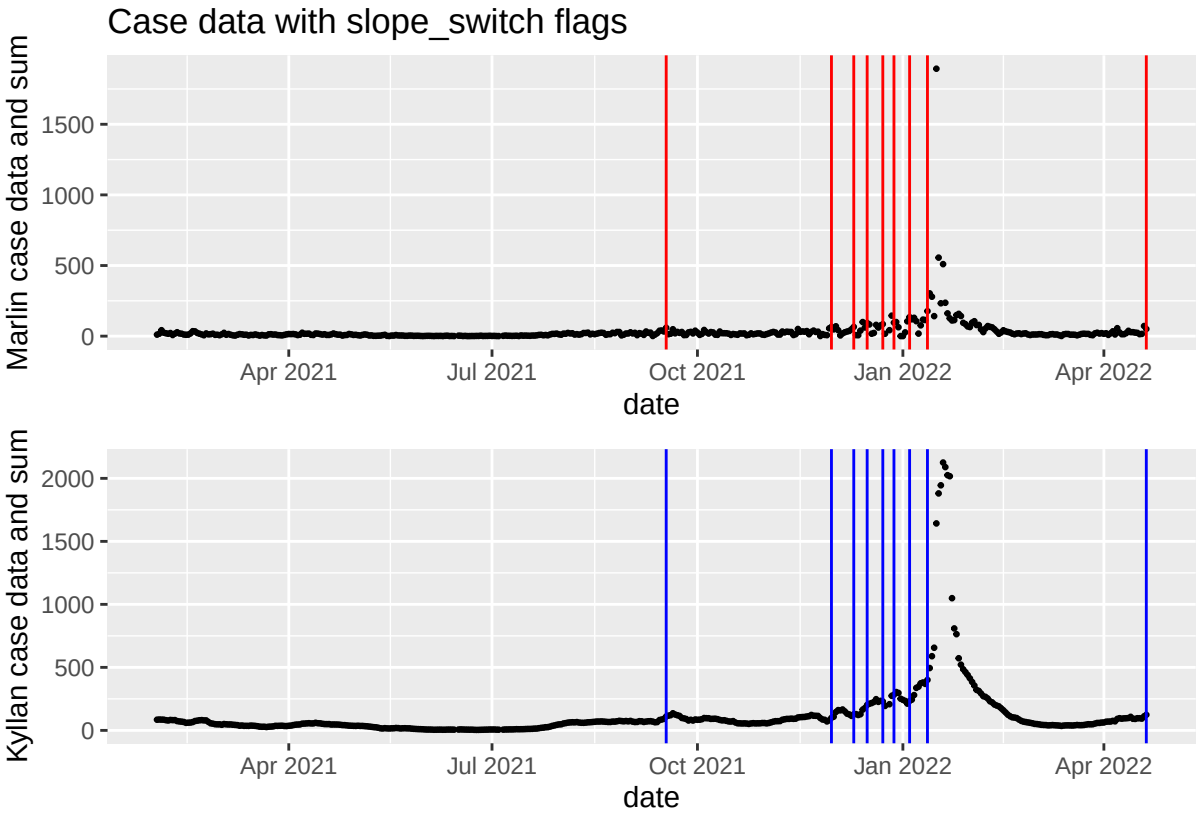

```
##       Min.    1st Qu.     Median       Mean    3rd Qu.       Max.
## -217.39662   -1.14192   -0.03759    0.01707    0.88816  195.93985
```

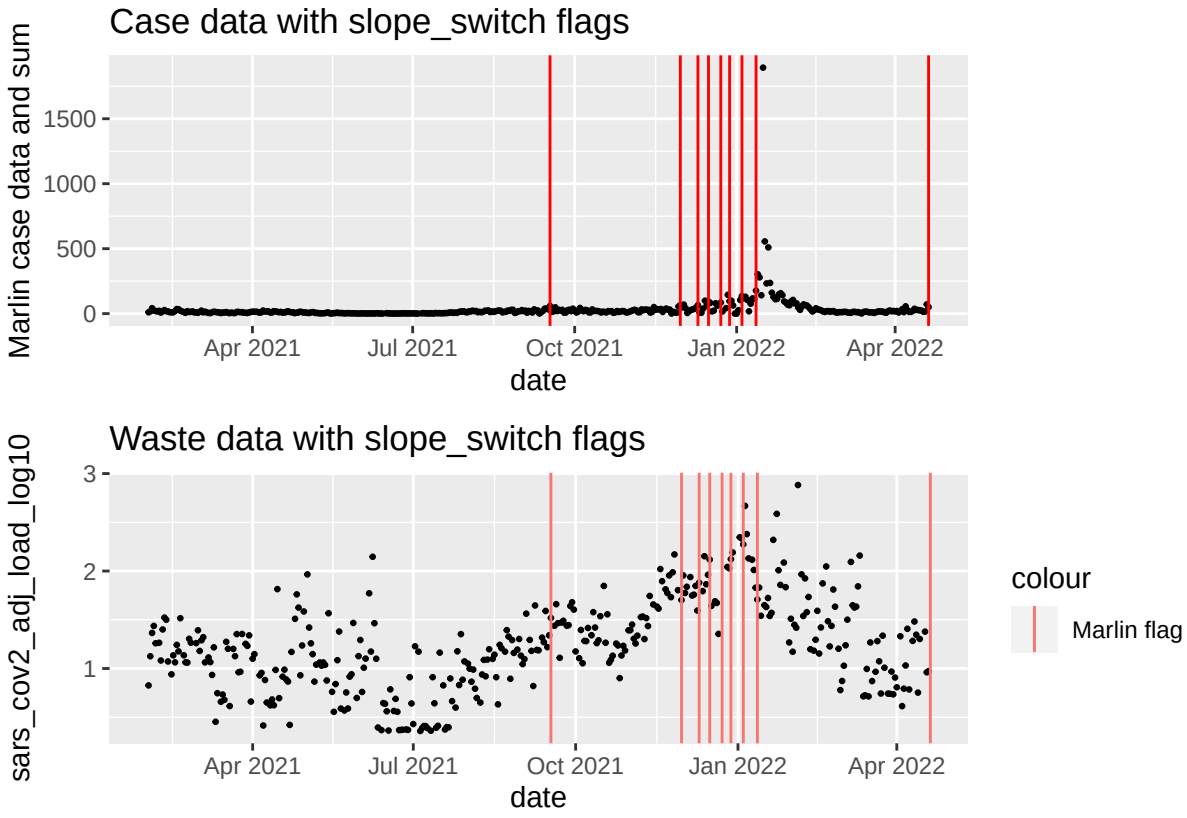
```
## [1] "Madison"                "FirstConfirmed.Per100K"
```

```
## # A tibble: 1 x 9
##   days_elapsed lmreg_n lmreg_s~1 lmreg~2 model~3 First~4 case_~5 case_~6 slope~7
##          <dbl>   <int>     <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
## 1           NA      NA        NA      NA      NA  14284.      25       6       9
## # ... with abbreviated variable names 1: lmreg_slope, 2: lmreg_sig,
## #   3: modeled_percentchange, 4: FirstConfirmed.Per100K, 5: case_flag,
## #   6: case_flag_plus_comm.threshold, 7: slope_switch_flag
```

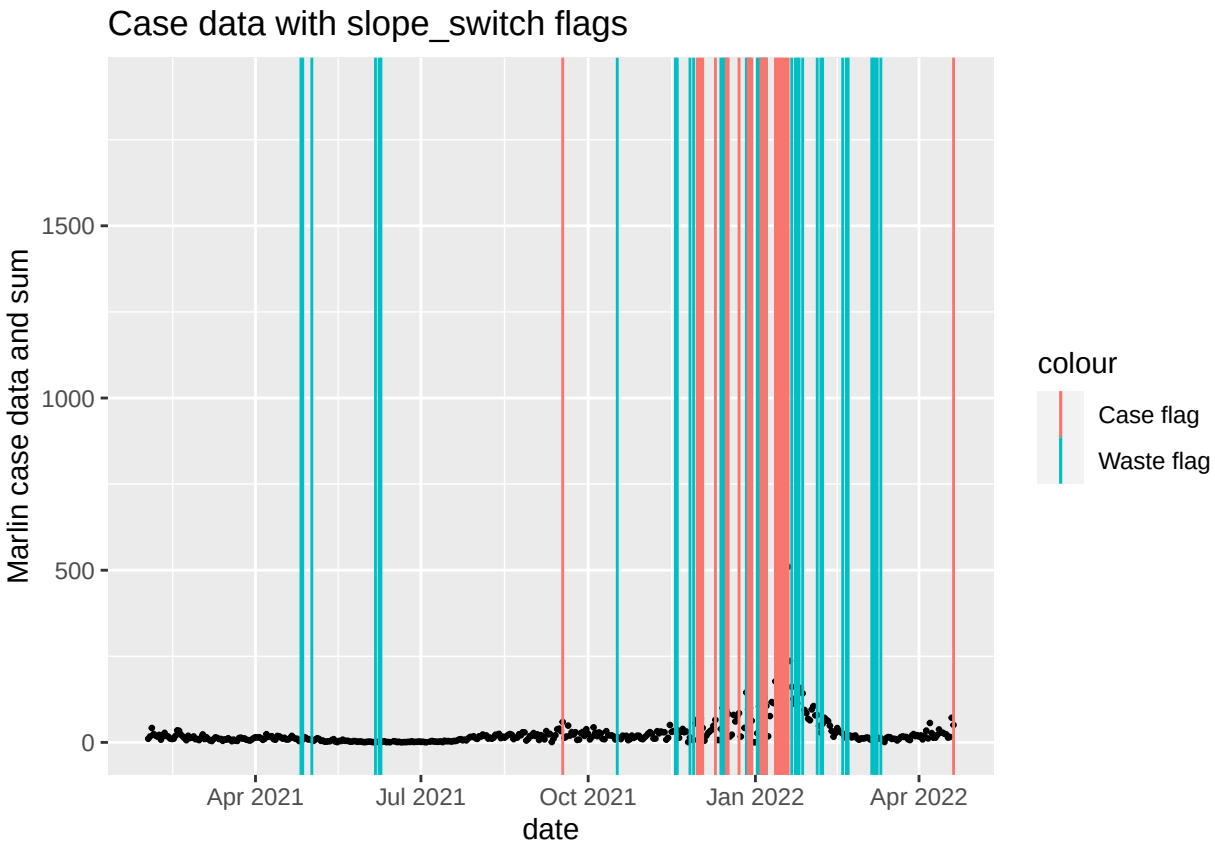
```
## # A tibble: 1 x 4
##   WWTP    case_flag case_flag_plus_comm.threshold slope_switch_flag
##   <chr>       <int>                         <int>              <int>
## 1 Madison        25                            23                  9
```

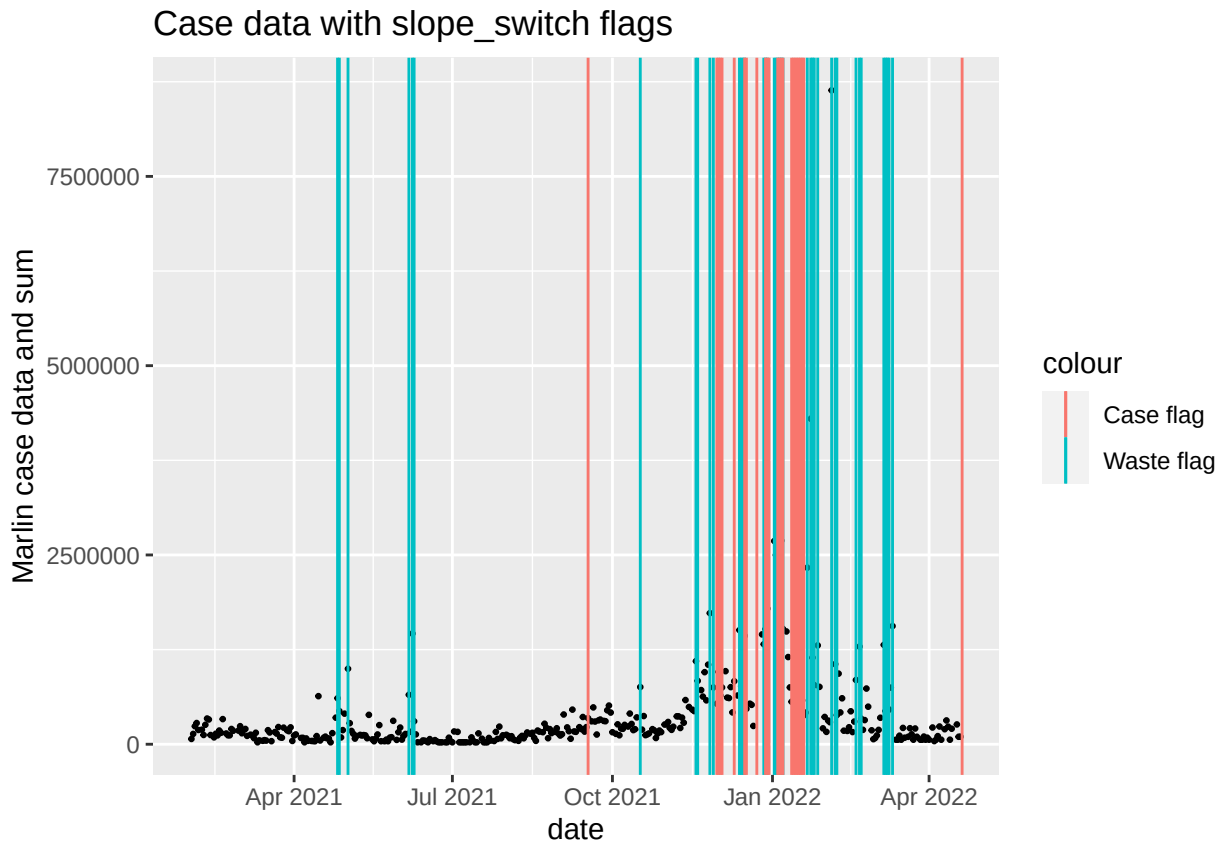

Case data with Case flags
Marlin case data and sum
1500
1000
500
0
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
date
Kyllan case data and sum
2000
1500
1000
500
0
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
date


Case data with slope_switch flags
Marlin case data and sum
1500
1000
500
0
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
date
Kyllan case data and sum
2000
1500
1000
500
0
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
date




```
## [1] "Madison MSD WWTF" "geoMean"
```


Case data with slope_switch flags
Marlin case data and sum
1500
1000
500
0
Apr 2021
Jul 2021
Oct 2021
Jan 2022
Apr 2022
date
colour
Case flag
Waste flag




```
## # A tibble: 7,380 x 11
##    WWTP    date       window pastK~1 quant ntile lmreg~2 Catag~3 cdc_f~4 flag_~5
##    <chr>   <date>      <dbl>   <dbl> <dbl> <dbl>   <dbl> <fct>     <dbl>   <dbl>
##  1 Madiso~ 2021-02-01     14   NA      0.5    NA NA      <NA>          0       0
##  2 Madiso~ 2021-02-02     14   NA      0.5    NA NA      <NA>          0       0
##  3 Madiso~ 2021-02-03     14    1.11   0.5    NA NA      <NA>          0       0
##  4 Madiso~ 2021-02-04     14    1.31   0.5    NA NA      <NA>          0       0
##  5 Madiso~ 2021-02-05     14    1.35   0.5    NA  0.126  major ~       1       0
##  6 Madiso~ 2021-02-07     14   NA      0.5    NA  0.798  modera~       0       0
##  7 Madiso~ 2021-02-08     14   NA      0.5    NA  0.0614 modera~       0       0
##  8 Madiso~ 2021-02-09     14    1.25   0.5    NA  0.604  modera~       0       0
##  9 Madiso~ 2021-02-10     14    1.34   0.5    NA  0.329  modera~       0       0
## 10 Madiso~ 2021-02-11     14    1.47   0.5    NA  0.113  major ~       1       0
## # ... with 7,370 more rows, 1 more variable: flag_ntile_pval <dbl>, and
## #   abbreviated variable names 1: pastKavg.wwlog10, 2: lmreg_sig, 3: Catagory,
## #   4: cdc_flag, 5: flag_ntile
## # i Use `print(n = ...)` to see more rows, and `colnames()` to see all variable names
```

```
## # A tibble: 810 x 46
##    WWTP    date       case_flag case_f~1 slope~2 cdc_f~3 flag_~4 flag_~5 flag_~6
##    <chr>   <date>         <dbl>    <dbl>   <dbl>   <dbl>   <dbl>   <dbl>   <dbl>
##  1 Madison 2021-02-07         0        0       0      NA      NA      NA      NA
##  2 Madison 2021-02-08         0        0       0      NA      NA      NA      NA
##  3 Madison 2021-02-09         0        0       0      NA      NA      NA      NA
##  4 Madison 2021-02-10         0        0       0      NA      NA      NA      NA
```

```
##  5 Madison 2021-02-11         0        0       0      NA      NA      NA      NA
##  6 Madison 2021-02-12         0        0       0      NA      NA      NA      NA
##  7 Madison 2021-02-13         0        0       0      NA      NA      NA      NA
##  8 Madison 2021-02-14         0        0       0      NA      NA      NA      NA
##  9 Madison 2021-02-15         0        0       0      NA      NA      NA      NA
## 10 Madison 2021-02-16         0        0       0      NA      NA      NA      NA
## # ... with 800 more rows, 37 more variables: flag_ntile_14_0.8 <dbl>,
## #   flag_ntile_14_0.9 <dbl>, flag_ntile_30_0.5 <dbl>, flag_ntile_30_0.6 <dbl>,
## #   flag_ntile_30_0.7 <dbl>, flag_ntile_30_0.8 <dbl>, flag_ntile_30_0.9 <dbl>,
## #   flag_ntile_60_0.5 <dbl>, flag_ntile_60_0.6 <dbl>, flag_ntile_60_0.7 <dbl>,
## #   flag_ntile_60_0.8 <dbl>, flag_ntile_60_0.9 <dbl>, flag_ntile_90_0.5 <dbl>,
## #   flag_ntile_90_0.6 <dbl>, flag_ntile_90_0.7 <dbl>, flag_ntile_90_0.8 <dbl>,
## #   flag_ntile_90_0.9 <dbl>, flag_ntile_pval_14_0.5 <dbl>, ...
## # i Use 'print(n = ...)' to see more rows, and 'colnames()' to see all variable names
```