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# Data Visualization in R

## Case Study: COVID-19 in South Korea

### Group 25

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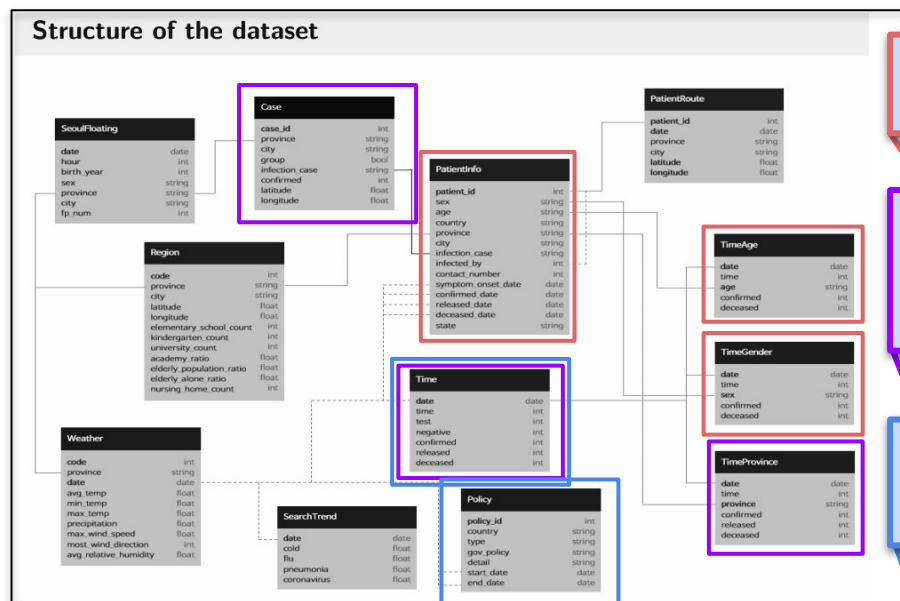
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# Introduction



Source of the dataset: <https://www.kaggle.com/kimjihoo/coronavirusdataset>

Does **gender** matter or are we all equally affected?

What role does the **population density** play? Do the high case numbers really result from the daily confrontation with strangers or do private contacts play an equally important role?

How does the Korean government **approach** to introduce new/ intensified measures? How flexible does it **react to changes** in case numbers?

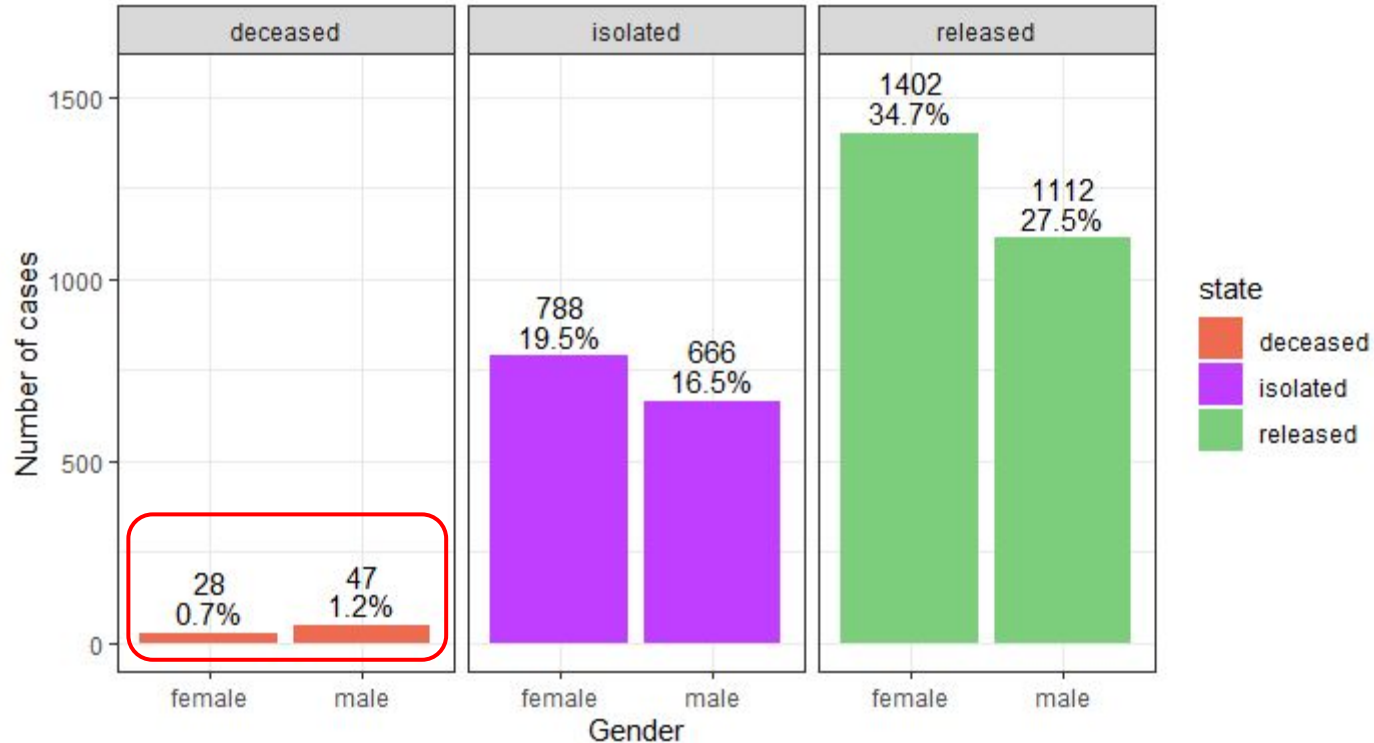
## Claim 1.

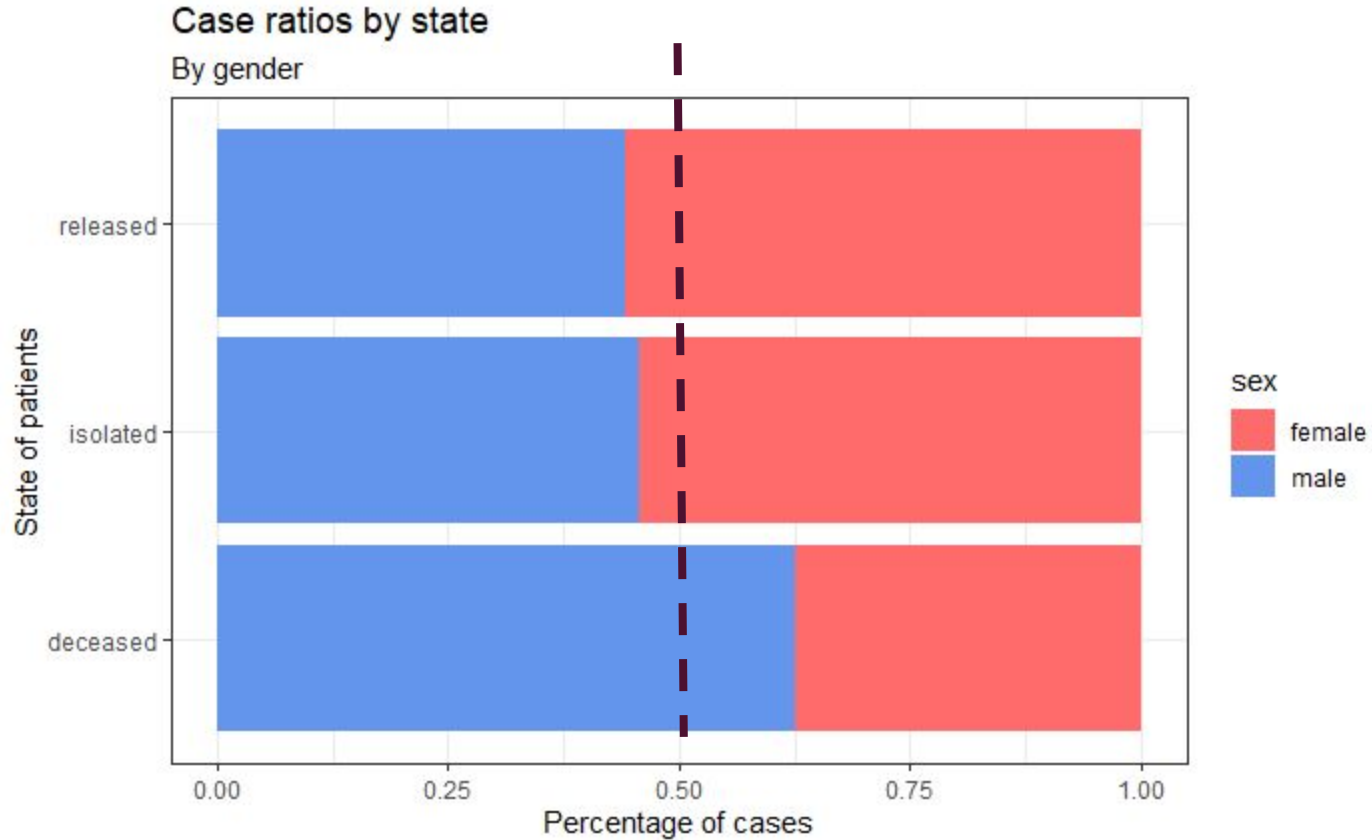
Females got infected more than males, but males passed away more compared to females.



## Number of cases by gender groups

categorized by state of patients

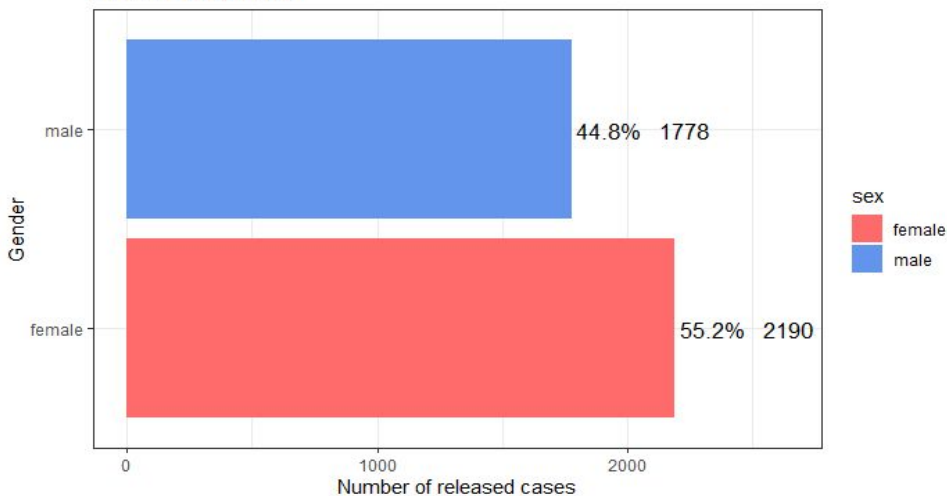




# Comparing deceased and healed ratios

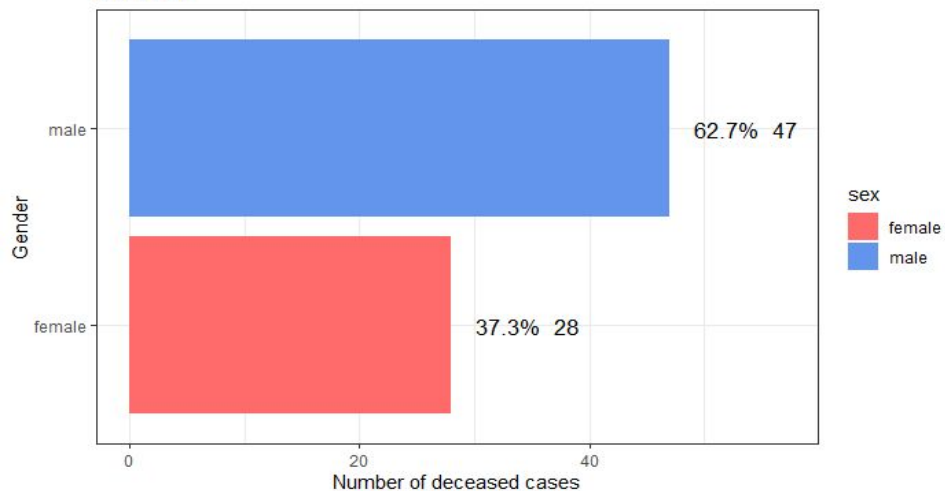
Number of cases by gender ratios

Released and isolated



Number of cases by gender ratios

Deceased



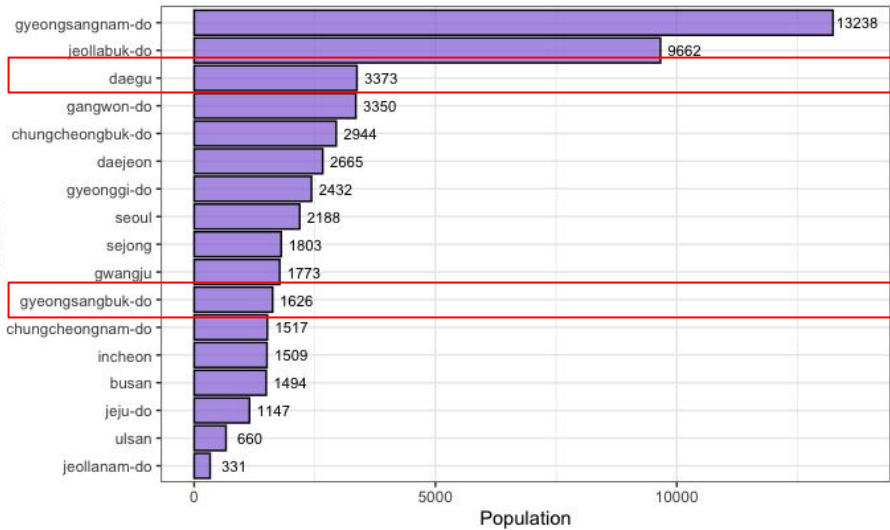
## Claim 2.

The number of COVID-19 cases is proportional to the population\* in the provinces.

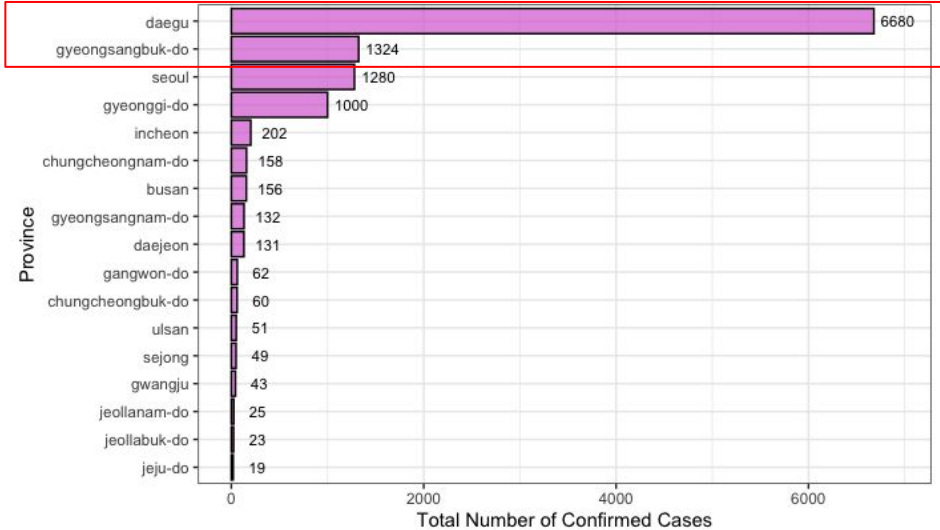


\*Source of the population data:  
[http://index.go.kr/potal/main/EachDtlPageDetail.do?idx\\_cd=1007#quick\\_01](http://index.go.kr/potal/main/EachDtlPageDetail.do?idx_cd=1007#quick_01)

Province population

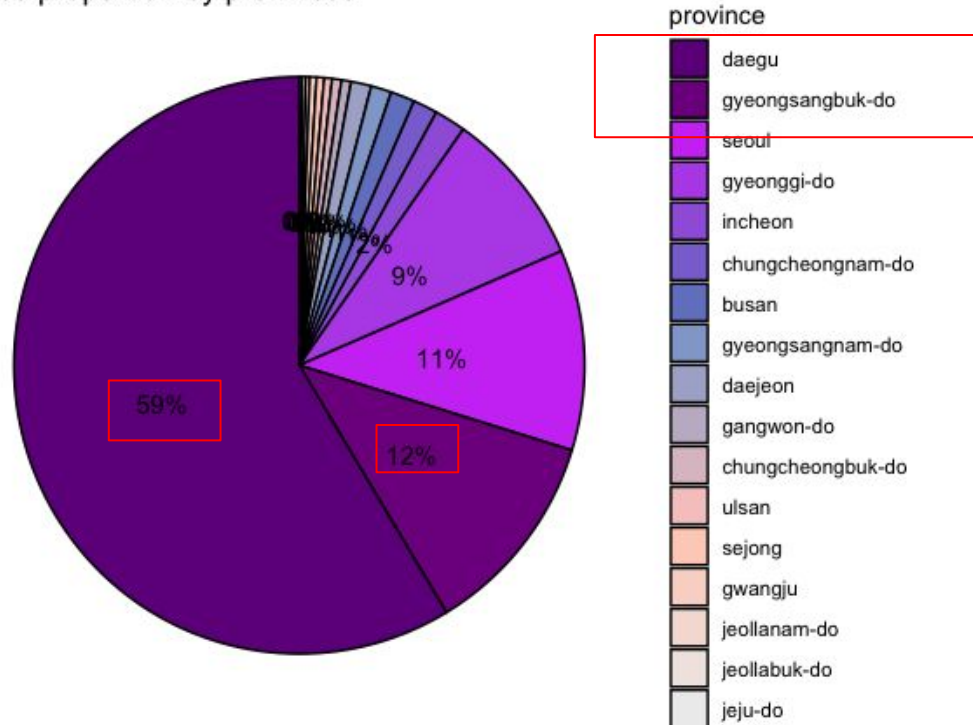


Cases in provinces over time





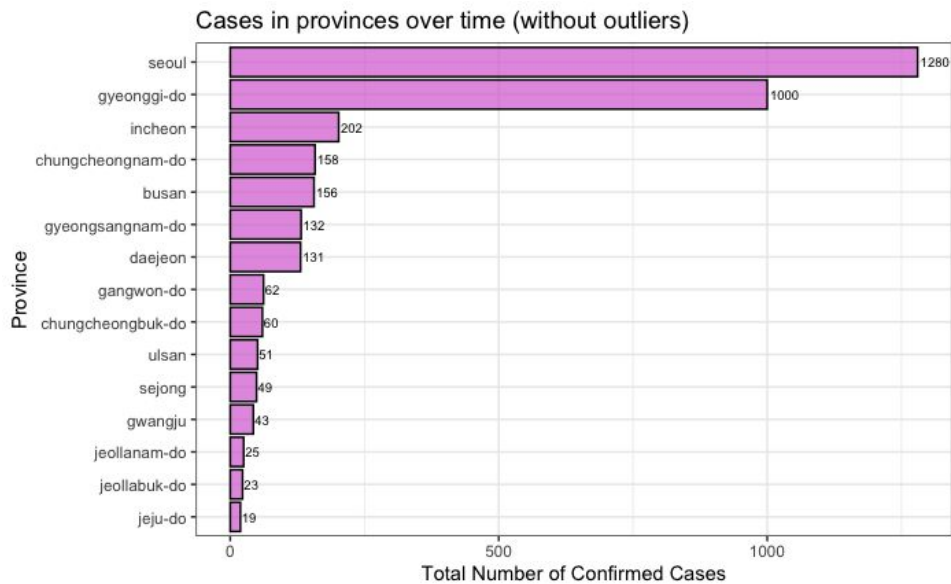
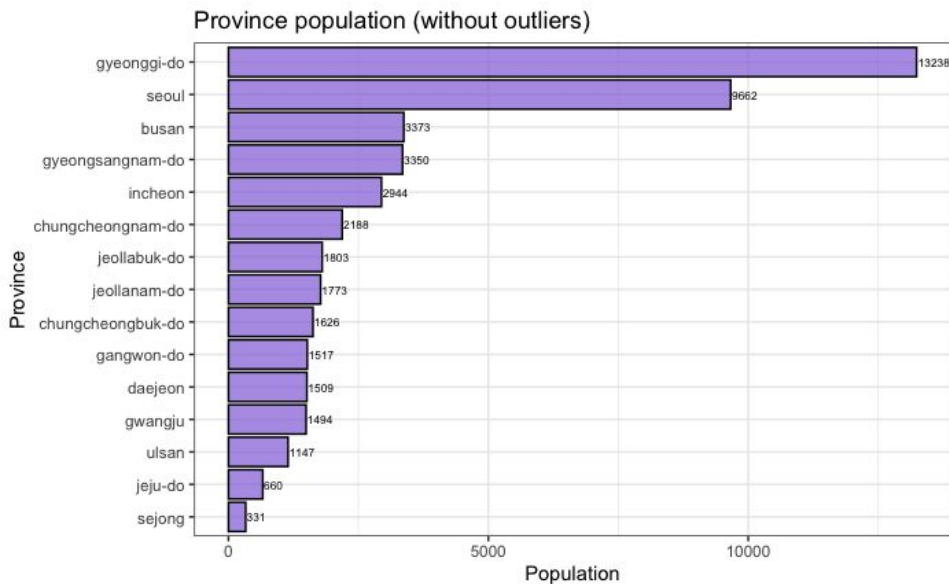
Cases proportion by provinces



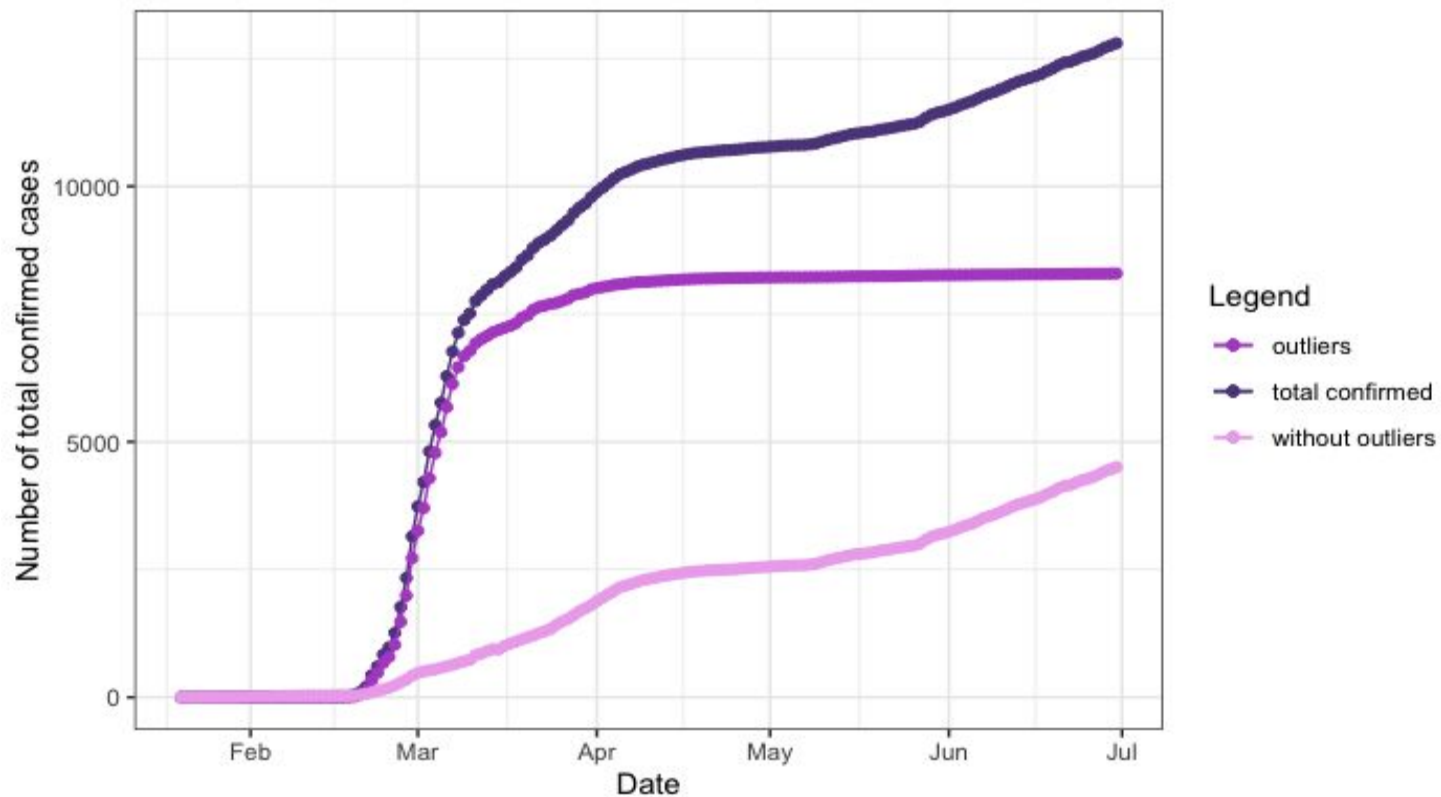
Two Outliers: Provinces *Daegu* and *Gyeongsangbuk-do*.

These 2 provinces had **70%** of total confirmed cases!

The Reason: Religious sect event\*



Cases in provinces over time



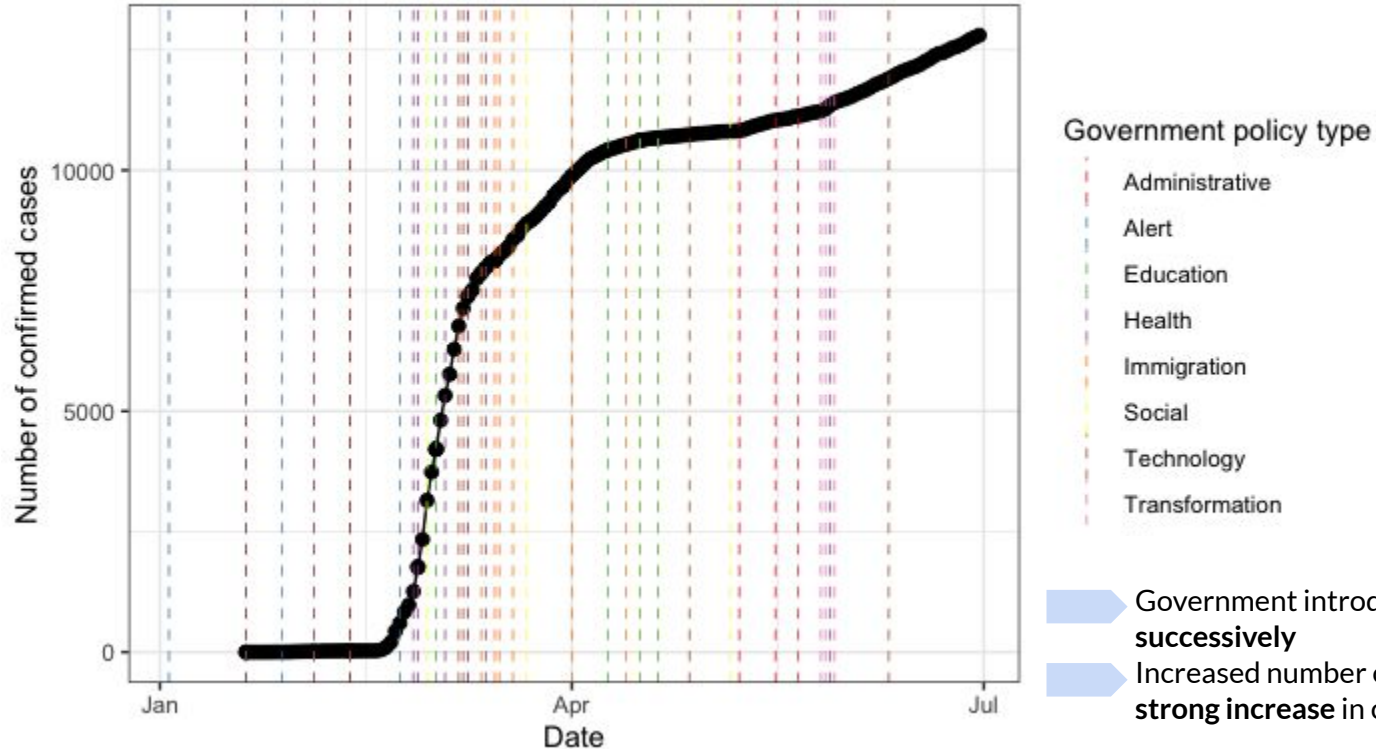
## Claim 3.

New government policies are introduced whenever the number of confirmed cases is increasing.



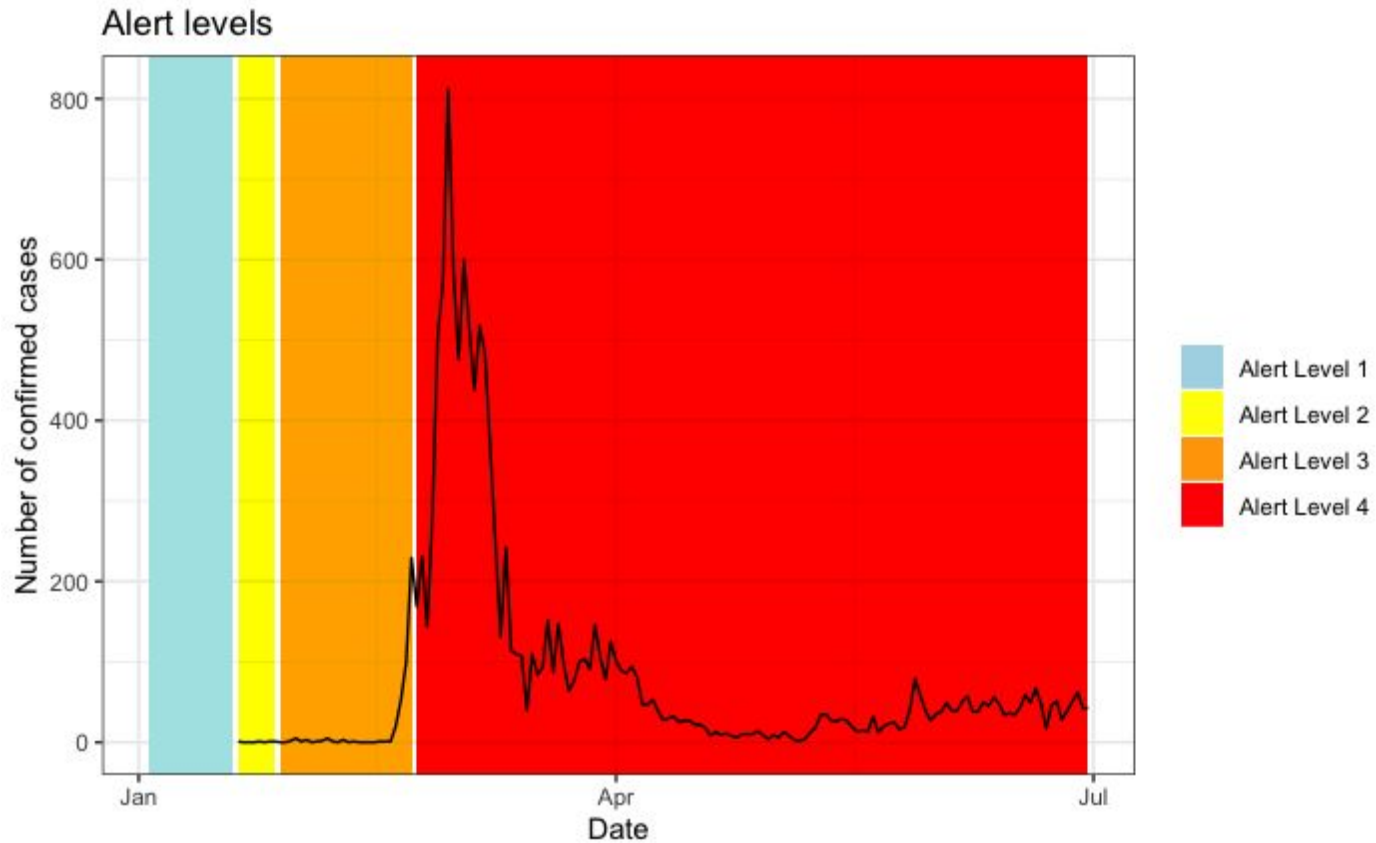
## Accumulated Number of Confirmed Cases

With start date of government policies



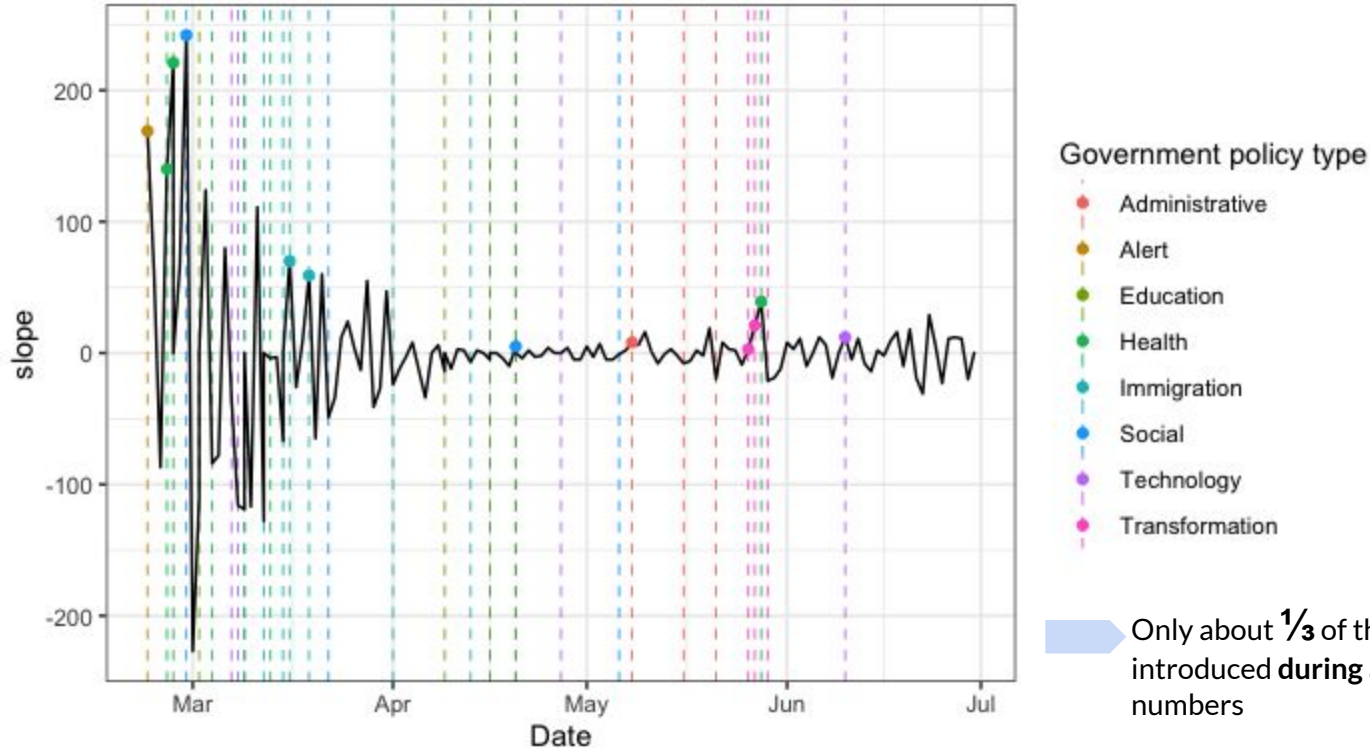
Government introduces policies **successively**

Increased number of policies **after the first strong increase** in case numbers



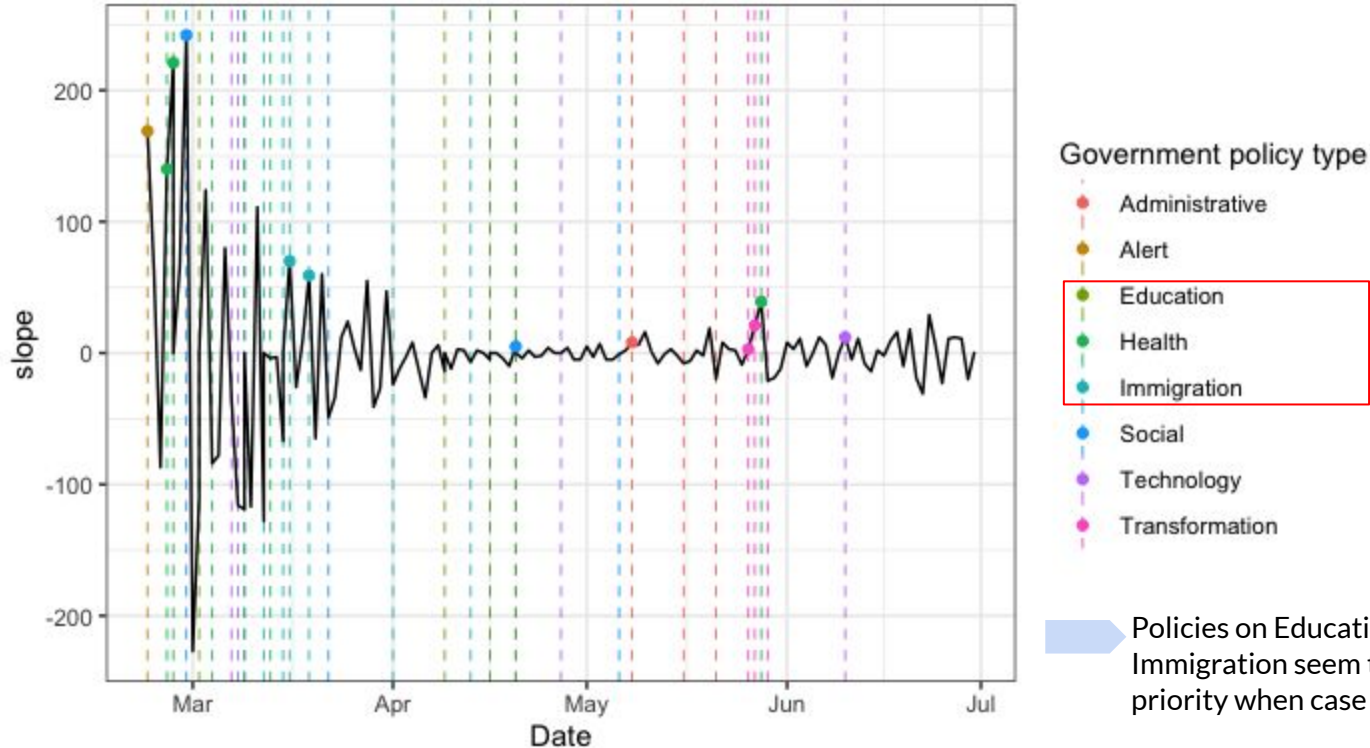
## Introduced government policy when number of confirmed cases is rising

Positive slope and policy start date intersection



## Introduced government policy when number of confirmed cases is rising

Positive slope and policy start date intersection







# Thanks for listening!