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Vaccination and Mortality Rate Speed of Covid-19 in 2022

#IkutVaksinasikutMelindungi



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About Us

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Problems

Total Deaths in Indonesia

March 11, 2020

1
people

increased to

September 16, 2022

157,876
people

Vaccination Achievement in Indonesia

January 13, 2021

0%

increased to

September 16, 2022

87.31%

Source:

<https://data.covid19.go.id/public/index.html>

<https://vaksin.kemkes.go.id/#/vaccines>



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Is Vaccination decreasing death cause Covid-19?

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What is Mortality Rate and Vaccination Rate?



100 people died in Jakarta



100 people died in Bali

Is there any different?

What is Mortality Rate and Vaccination Rate?



100 people died in Jakarta with **5000**
population



100 people died in Bali with **1000**
population

**You can see the difference if you
put the population**

What is Mortality Rate and Vaccination Rate?



100 people died in Jakarta with **5000** population

With **Mortality rate**, it's
 $(100/5000) \times 1000$ (in 1000 people) is
20



100 people died in Bali with **1000** population

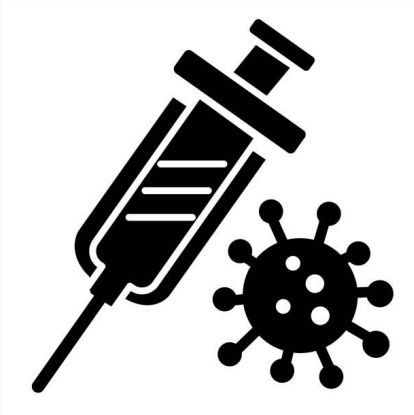
With **Mortality rate**, it's
 $(100/1000) \times 1000$ (in 1000 people) is
100

What is Mortality Rate and Vaccination Rate?



Mortality Rate is
 $(\text{Total Deaths} / \text{Population}) * 1000$

What is Mortality Rate and Vaccination Rate?

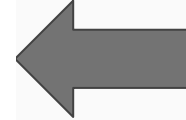
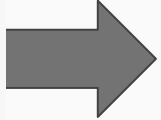


Vaccination Rate is
 $(\text{Total Vaccinated} / \text{Population}) * 1000$

What is Mortality Rate Speed?



There are **days**

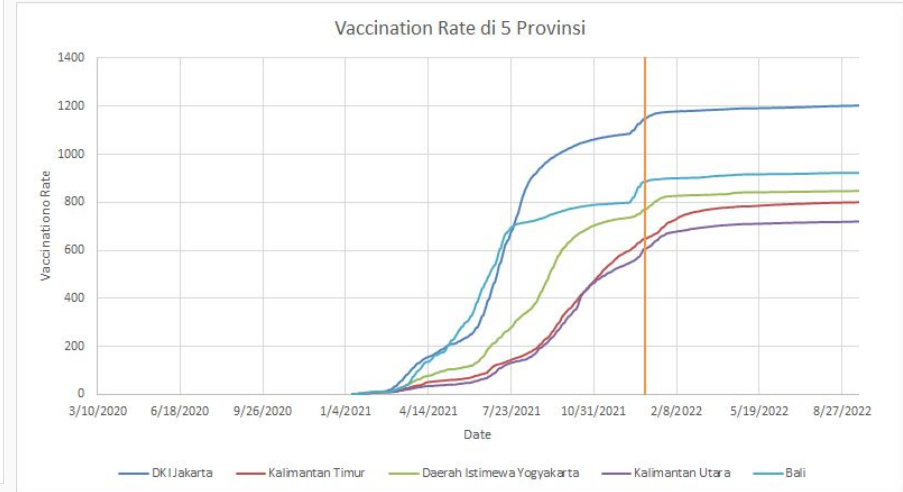
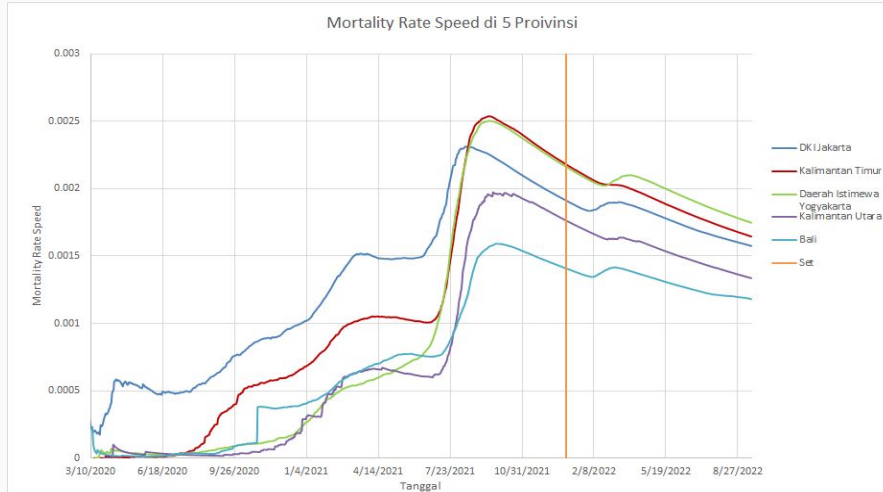


There's **mortality rate**

Mortality Rate Speed is
 $\text{Mortality Rate} / \text{Total Days}^*$

*Calculated between the start date and end date

Vaccination dan Mortality Rate Speed



- The Highest Vaccination Rate is **DKI Jakarta**
- The Lowest Vaccination Rate is **Kalimantan Utara**

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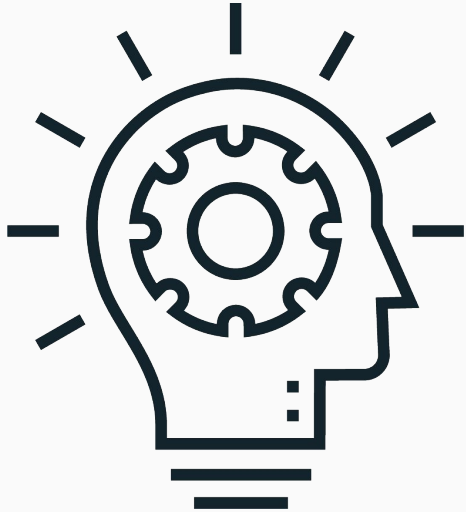
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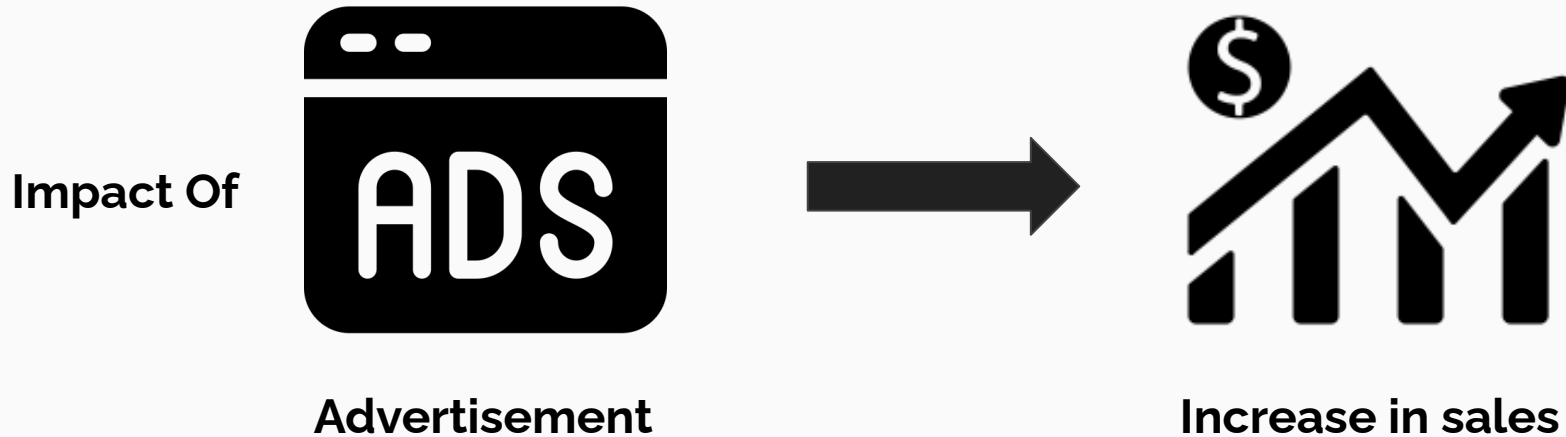
What is Causal Impact?



Causal impact statistically **estimate the causal effect** of an **intervention on time series data**.

What is Causal Impact?

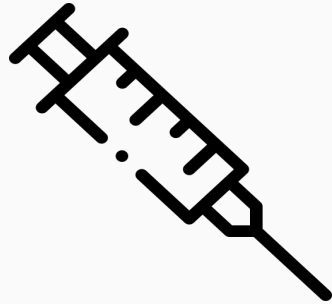
For Example :



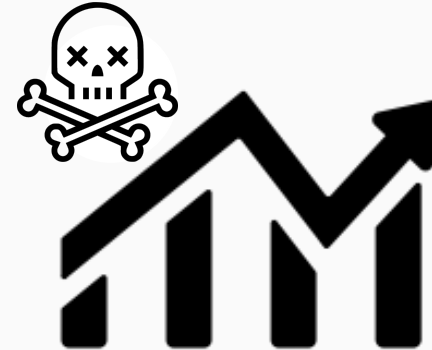
What is Causal Impact?

In our project :

Impact Of



Vaccination



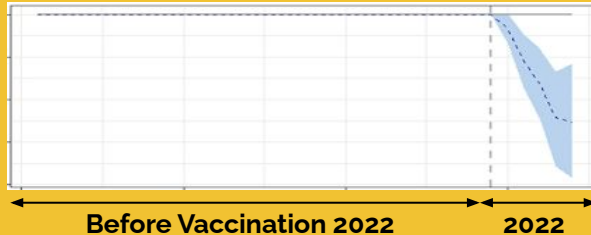
Mortality Rate
Speed
2022

What is Causal Impact?

Key Value :

1.

Cumulative Effect Graph



2.

Relative Effect

Effect of Vaccination in 2022 (In percentage)

Negative percentage means percentage of vaccination decreasing mortality rate speed.

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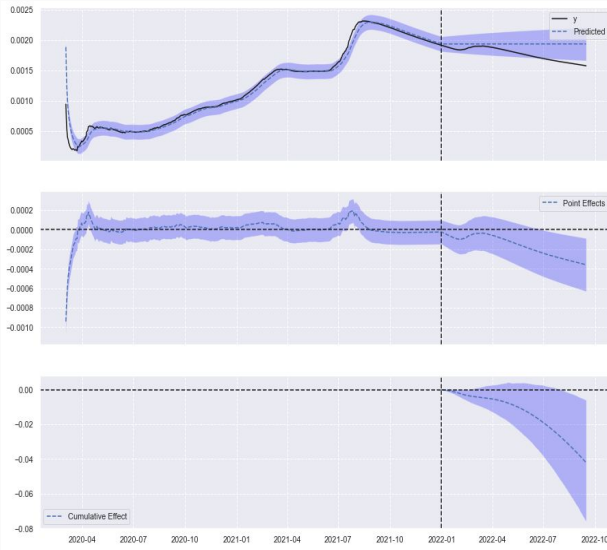
4

Result of Causal Impact

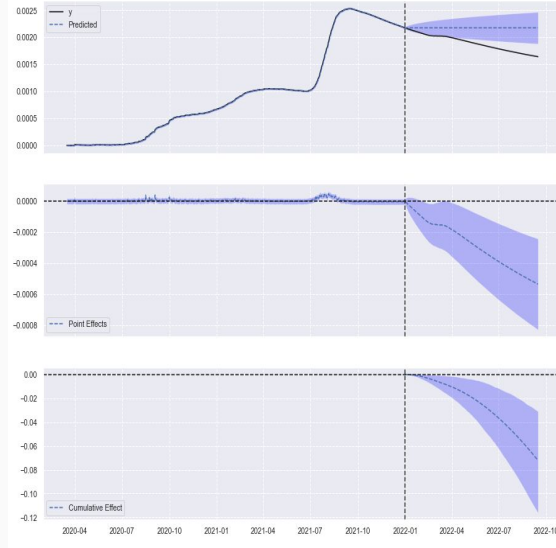
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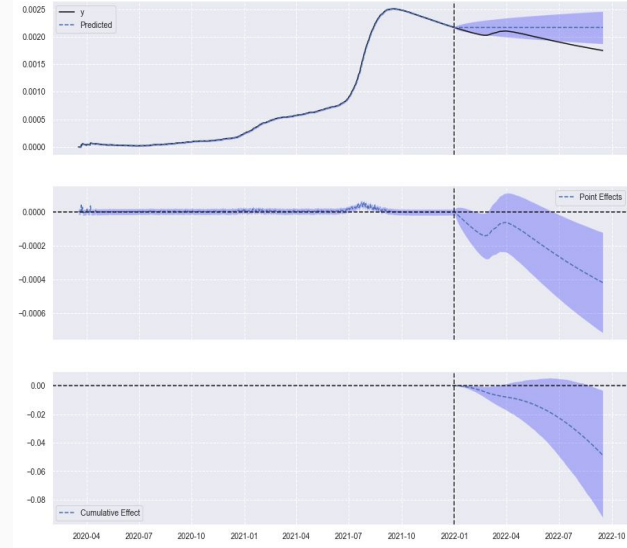
Result of Causal Impact



DKI Jakarta
Relative effect = -8,42%

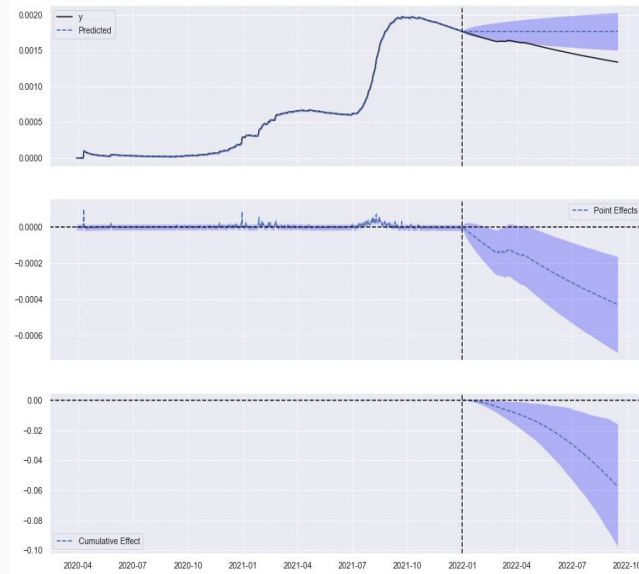


Kalimantan Timur
Relative effect = -12,83

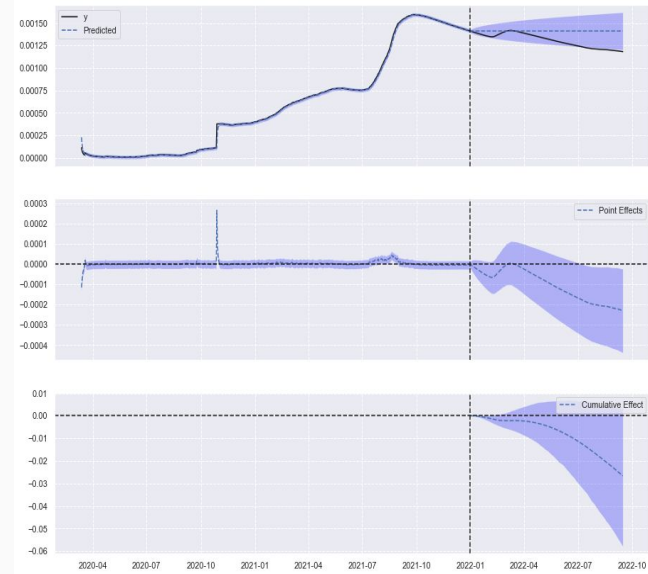


Daerah Istimewa Yogyakarta
Relative effect = -8,74%

Result of Causal Impact



Kalimantan Utara
Relative effect = -12,64%



Bali
Relative effect = -7,32%

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Conclusion

From the hypothesis test using Causal Impact is obtained that vaccination at 2022 have the decrease effect to mortality rate speed covid-19 in DKI Jakarta, Kalimantan Timur, Daerah Istimewa Yogyakarta, Kalimantan Utara, and Bali.

Solutions



Participate in Vaccination programs by Government



Follow the Health Protocol



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Thank you :)



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Scan for our Dashboard :D