DRT QUEENS

Dailyn Rollins, Raquel Shivers, Taylor Colbert

Introduction

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What's The Problem?

In 2020, a world wide pandemic took place.
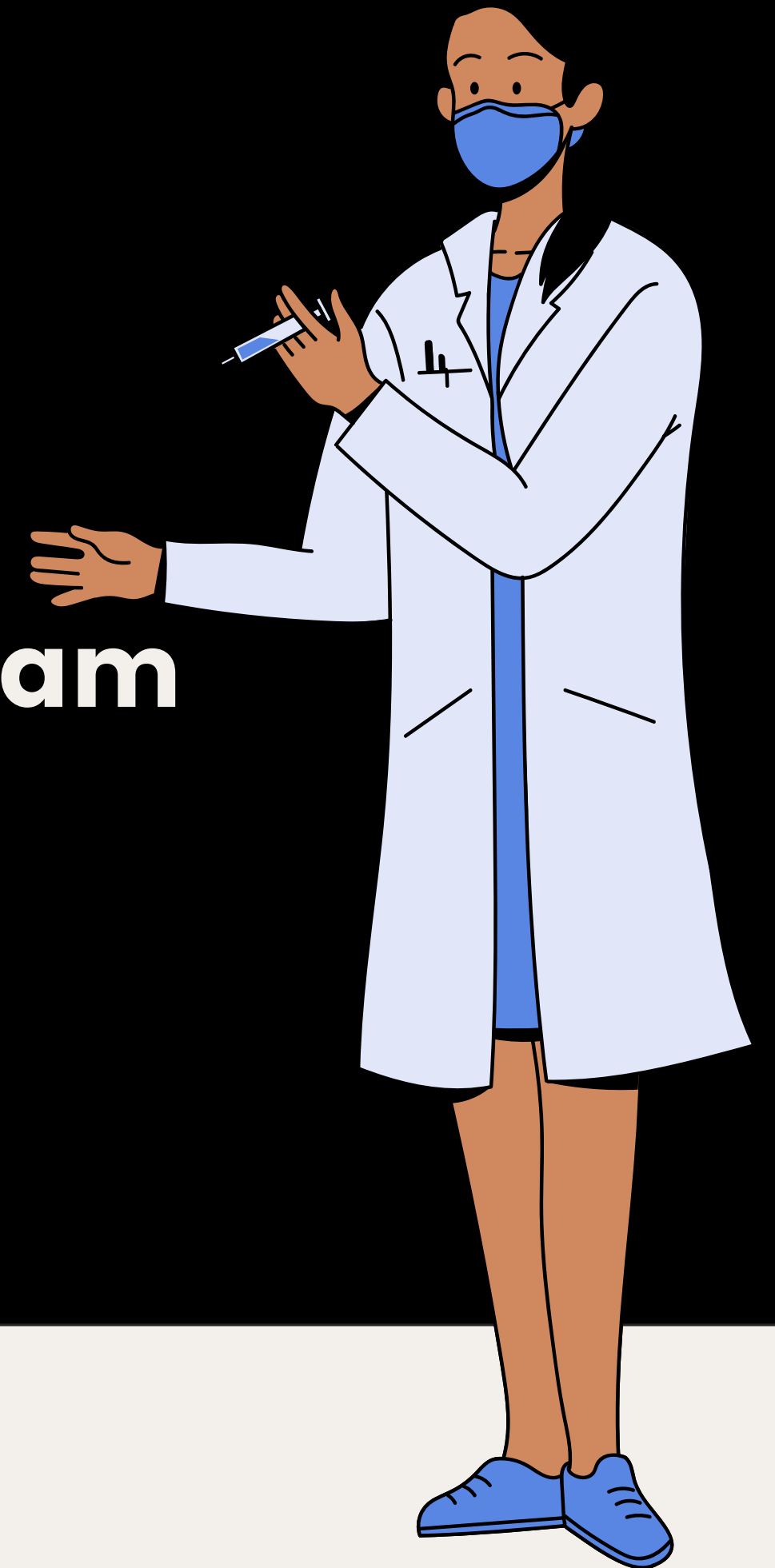A virus was named Corona Virus and was
wiping out populations.

Is there a solution?

Vaccines were created to aide in healing populations.
Three vaccines were put out in December 2020 and
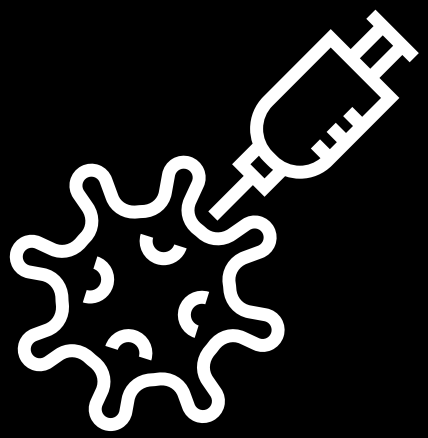studies have been in progress since.

Our Goal

Is to construct a program that will predict the effectiveness of the Moderna vaccine.
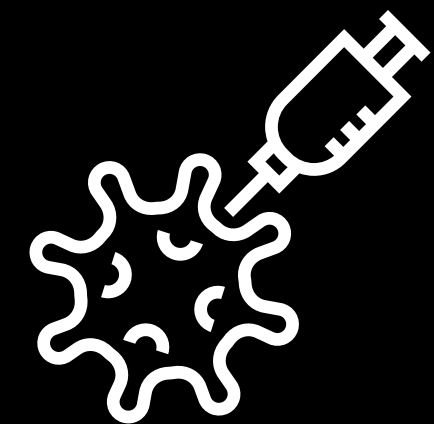
Moderna Statistics

Infection Rates: (via <u>CDC</u>) Once fully vaccinated, participants' risk of infection was reduced by 91 percent. After partial vaccination, participants' risk of infection was reduced by 81 percent.

Recovery Rates:
The Moderna vaccine against COVID-19 has shown greater than 90% effectiveness soon after the second dose. Studies suggest that protective immunity remains high, with only slight decreases, over six months. (via <u>National Institutes of Health</u>)
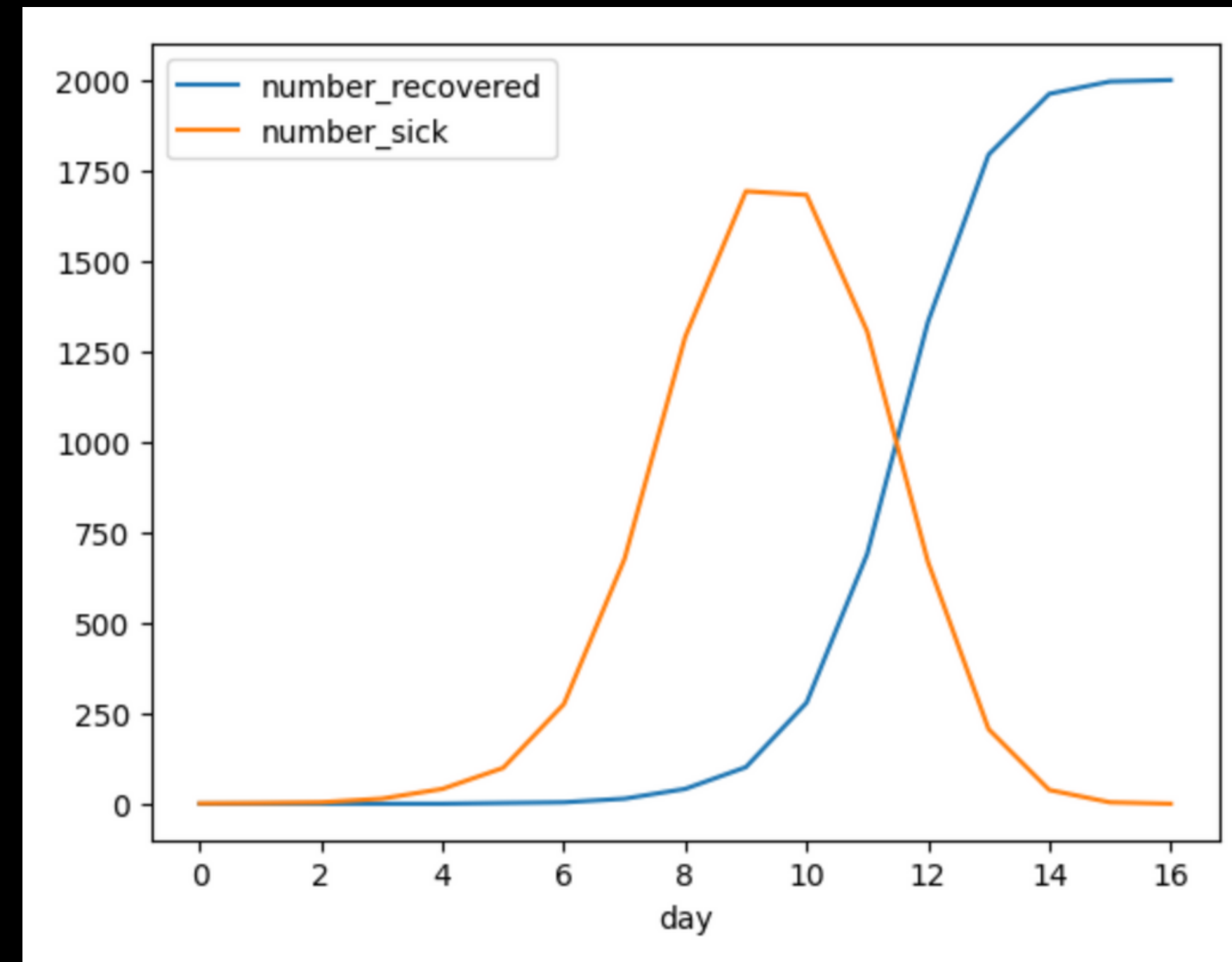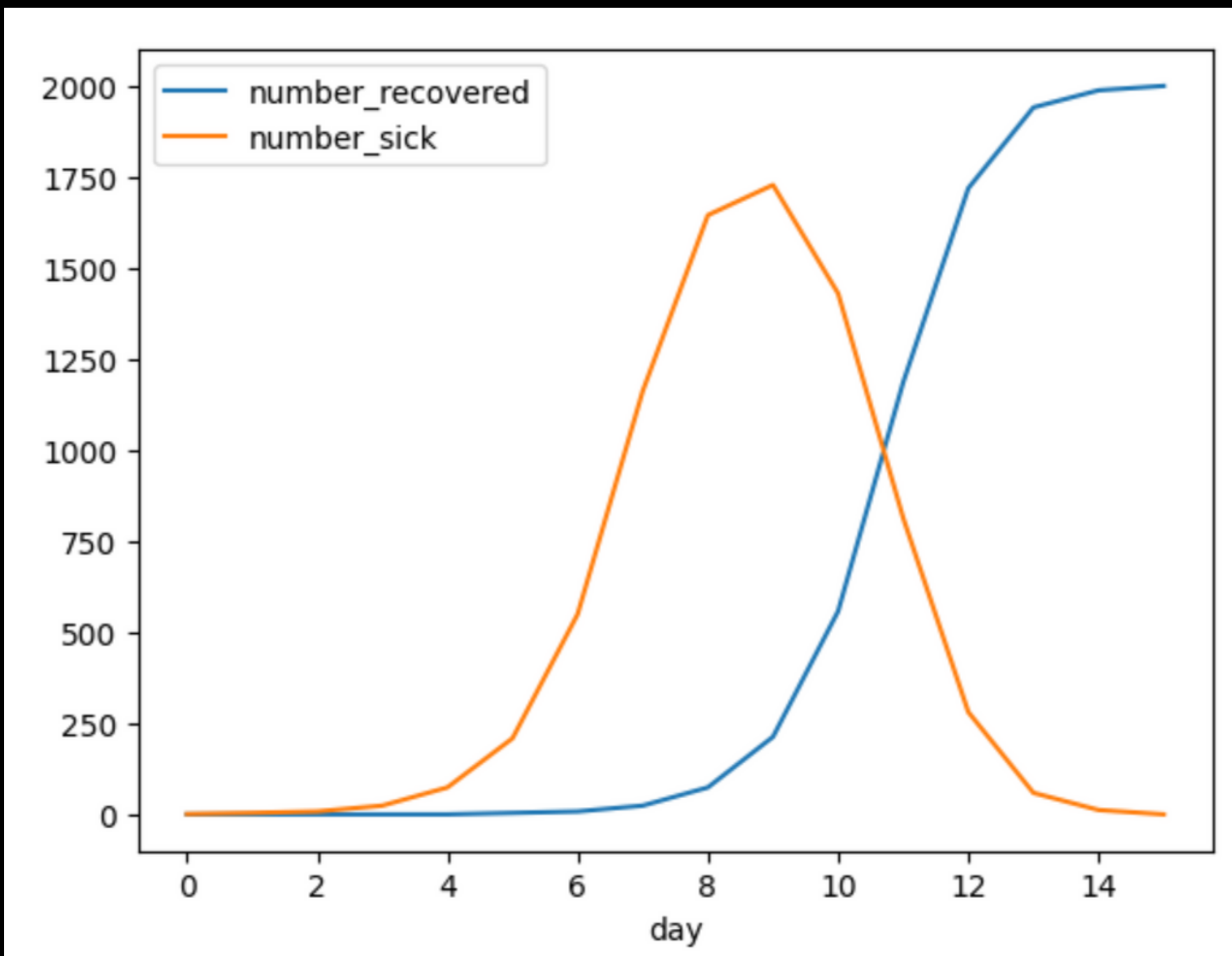
Data Before Intervention

```
day: 0 Number of sick: 1
day: 1 Number of sick: 4
day: 2 Number of sick: 8
day: 3 Number of sick: 24
day: 4 Number of sick: 74
day: 5 Number of sick: 209
day: 6 Number of sick: 550
day: 7 Number of sick: 1163
day: 8 Number of sick: 1646
day: 9 Number of sick: 1729
day: 10 Number of sick: 1431
day: 11 Number of sick: 814
day: 12 Number of sick: 281
day: 13 Number of sick: 59
day: 14 Number of sick: 12
day: 15 Number of sick: 0
Number recovered: 2001
Number susceptible: 0
```

```
day: 0 Number of sick: 1
day: 1 Number of sick: 2
day: 2 Number of sick: 4
day: 3 Number of sick: 14
day: 4 Number of sick: 41
day: 5 Number of sick: 99
day: 6 Number of sick: 275
day: 7 Number of sick: 676
day: 8 Number of sick: 1289
day: 9 Number of sick: 1691
day: 10 Number of sick: 1681
day: 11 Number of sick: 1304
day: 12 Number of sick: 668
day: 13 Number of sick: 206
day: 14 Number of sick: 38
day: 15 Number of sick: 4
day: 16 Number of sick: 0
Number recovered: 1998
Number susceptible: 3
```

Moderna Vaccine Data
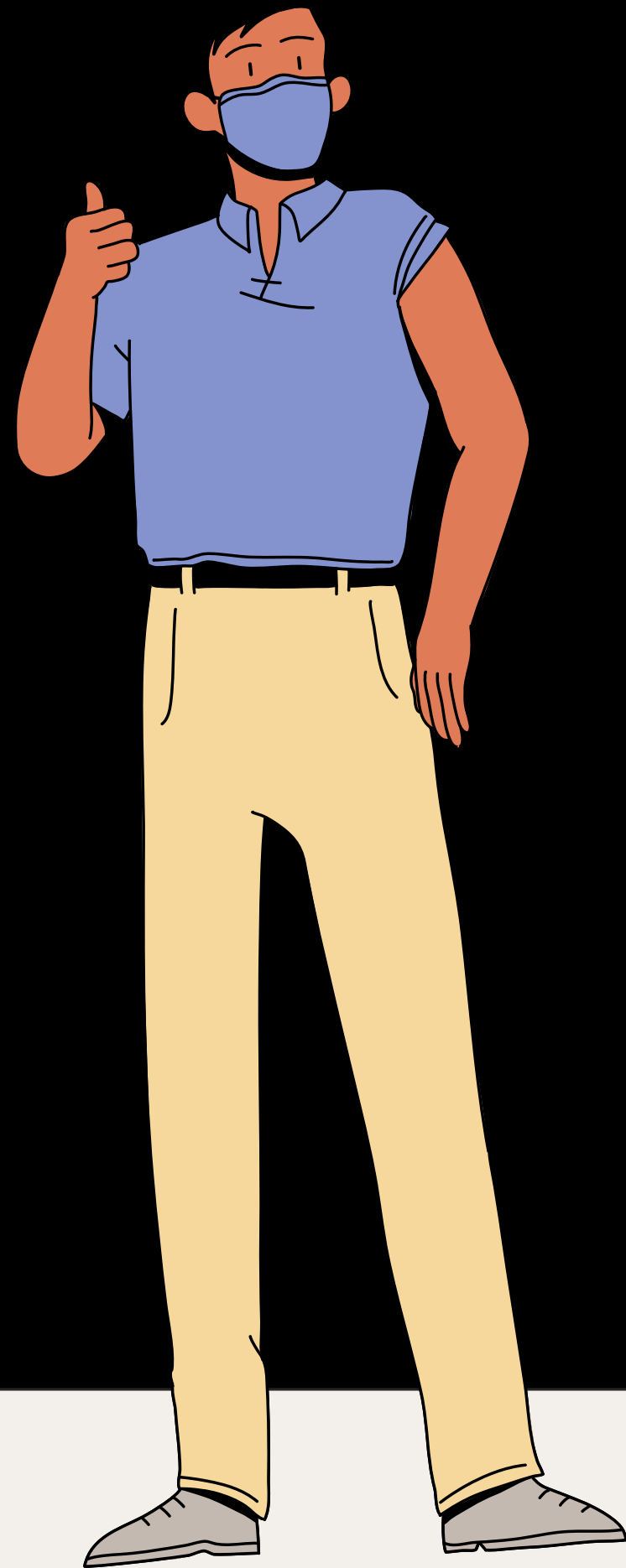
Graph Before Intervention

Moderna Vaccine Graph

GitHub

- **https://github.com/RaquelS04/VaccineEffectiveness**

References

- **https://www.nih.gov/news-events/nih-research-matters/moderna-covid-19-vaccine-generates-long-lasting-immune-memory**

- **https://www.cdc.gov/media/releases/2021/p0607-mrna-reduce-risks.html**

Questions or comments?

Get in touch!

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