Inference of Covid-19 vaccines effectiveness and uncertainty using bayesian methods

Several Covid-19 Vaccines have been authorized by the European Medicines Agency (EMA):

- Nuvaxovid (Novavax CZ) [1];

- Vaxzevria (AstraZeneca AB) [2];

- Spikevax (Moderna Biotech) [3]

- Comirnaty (BioNTech/Pfizer) [4]

- Jcovden (Janssen-Cilag) [5]

Similar information is provided in the United States Food and Drugs web site [6].

For the project:

1. collect official data available on the clinical clinical trial performed for each vaccine and compute with JAGS or Stan the efficacy of each Vaccine. Infere the the 95% credibility interval.

2. more recently tests on the efficacy of Vaccine for young people have started. Try to collect available official data from the European medicines Agency (`https://www.ema.europa.eu/en`) or the U.S. Food and Drug (FDA) (`https://www.fda.gov/`) and perform a bayesian analysis of the data as a function of the age of the patients.

Bibliography

[1] `https://www.ema.europa.eu/en/medicines/human/EPAR/nuvaxovid`

[2] `https://www.ema.europa.eu/en/medicines/human/EPAR/vaxzevria-previously-covid-19-vaccine-astrazeneca`

[3] `https://www.ema.europa.eu/en/medicines/human/EPAR/spikevax`

[4] `https://www.ema.europa.eu/en/medicines/human/EPAR/comirnaty`

[5] `https://www.ema.europa.eu/en/medicines/human/EPAR/jcovden-previously-covid-19-vaccine-janssen`

[6] `https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/covid-19-vaccines`